1968 – 1970

23rd BIENNIAL REPORT OF THE NORTH CAROLINA DEPARTMENT OF CONSERVATION AND DEVELOPMENT

State of North Carolina
Department of Conservation and Development
Raleigh 27611

ROBERT W. SCOTT
GOVERNOR

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DIRECTOR

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December 3, 1971

To His Excellency
The Honorable Robert W. Scott
Governor of North Carolina

In compliance with the Statutes of North Carolina, I am transmitting herewith the report of the Department of Conservation and Development for the biennium ending June 30, 1970.

Respectfully,

Roy G. Sowers, Jr.
Director

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DIVISION OF COMMERCE AND INDUSTRY

For the second biennium in a row, capital investments in new and expanded industrial plants have exceeded the $1 billion mark. During the 1968-70 biennium, expenditures reached $1,254,839,000 and is the second highest investment figure in the history of the Division.

New industrial employment—a primary goal of the Division—was provided for 61,212 people in the State. And more importantly, the average starting salary for new employees in all industrial classifications was $5,007 which was an increase of 17.5% over the previous biennium starting wage of $4,260.

Following is a summary of gains for the two bienniums, 1968-70 and 1966-68:

BIENNIAL SUMMARIES

	New	New Investments	Added Payrolls	Added Employees
1968-70	306	$548,106,000	$142,588,000	29,433
1966-68	297	725,801,000	130,047,000	29,987
	Expansions			
1968-70	667	$706,733,000	$163,920,000	31,779
1966-68	689	556,185,000	104,228,000	25,129
	New and Expansions			
1968-70	973	$1,254,839,000	$306,508,000	61,212
1966-68	986	1,281,986,000	234,275,000	55,116

The above figures are noteworthy because while tight money, high interest rates and future national uncertainty caused a decided drop in industrial expansion in many states, North Carolina saw no real decline.

GAINS BY MAJOR CLASSIFICATIONS
BIENNIUM 1968-70

	Payroll Totals	Added Employees Totals	No. of Projects	Investment Totals
Textiles	226	$345,534,000	$80,129,000 (2)	17,269 (1)
Metalworking	228	248,164,000	83,345,000 (1)	14,569 (2)
Chemicals & Allied Products	58	224,338,000	26,933,000 (4)	4,310 (5)
Rubber & Plastics	40	88,184,000	17,694,000 (6)	3,543 (6)
Stone, Clay & Glass	20	63,317,000	8,585,000 (8)	1,596 (8)
Paper & Allied Products	34	55,100,000	6,141,000 (9)	1,105 (10)
Furniture & Fixtures	89	54,781,000	24,473,000 (5)	5,142 (4)
Lumber & Wood Products	37	47,395,000	10,026,000 (7)	2,153 (7)
Tobacco Manufacturers	17	39,773,000	3,577,000 (11)-	395 (11)
Food & Kindred Products	66	37,796,000	5,683,000 (10)	1,215 (9)
Apparel & Other Finished Products	110	21,073,000	32,013,000 (3)	8,196 (3)

The above summary shows that textiles ranked Number one in investments and added employees and second in payroll totals while metalworking ranked number two in investments and added employees and number one in payroll totals. Interestingly enough, chemicals showed a strong third place in investments and ranked high in payrolls and added employees due in part to an influx of pharmaceutical plants during the biennium. Rank is denoted by number in parentheses for payrolls and employees.

Some of the firms announcing new plants in North Carolina during the 1968-70 biennium include: Abitibe of N. C., North Wilkesboro; American Can Co., Greensboro; Consolidated Diesel Electric Co., Charlotte; Purolator Products Inc., Fayetteville; Ingersol-Rand Co., Mocksville; Butler Mfg. Co., Laurinburg; Walker Mfg. Co., Division of Tenneco, Inc., Arden; DuPont, Fayetteville; Evans Products Co., Moncure; Continental Can Co., Winston-Salem; National Dairy Division of A & P Tea Co., High Point; Georgia Pacific Corp., Whiteville; Reichhold Chemicals, Inc., Moncure; Allied Chemical Corp., Moncure; Burroughs Wellcome & Co., Inc., Greenville and Research Triangle Park; Diamond Shamrock Chemical Co., Charlotte and Castle Hayne; Aeroquip Corp., Division of Libbey-Owens-Ford, Forest City; Kelly-Springfield Tire Co., Division of Goodyear Tire and Rubber Co., Fayetteville; Westinghouse Electric Corp., Rural Hall; Fruehauf Corp., Charlotte; Abbott Laboratories, Laurinburg; Armstrong Cork Co., Charlotte; Cargill, Inc., Fayetteville; Black & Decker Mfg. Co., Tarboro; Porritts & Spencer U.S.A., Inc.,

Wilson; Masonite Corp., Spring Hope; and Hudson Pulp & Paper Co., Hamlet.

As can be noted from the above listing, a wide variety of diversified products have been added to the manufacturing category in the State. The outstanding trend in pharmaceuticals and other chemical products is especially gratifying. In addition, metal-working and rubber products have shown great strides forward.

Another interesting factor has been the location of plants in small towns and rural areas of the State. During the biennium, 80% of the new and expanded plants selecting locations chose sites outside of the metropolitan areas. The presence of three crucial factors for rural plant location—available labor, community preparation and industrial training—abound in these North Carolina areas and are making a massive contribution to the industrial development program.

One rewarding result of the influx of industry into the rural areas of the State has been a decided turn in out-migration of the population. Another has been the rise in per capita income at a faster pace.

In the decade 1950-60, the State lost 35,000 people each year to out-migration or an average of 90 people per day. This decrease continued almost as heavy until 1966; but since that time, the population experts say in-migration has outpaced the loss to the point that the final 1970 population count will show a leveling increase in people remaining in the State and/or coming into the State rather than a repetition of out-migration loss.

Per capita income, while still far too low in the State, rose to $2,888 by the end of 1969. This was an increase of 26% from 1966 while the nation as a whole increased only 23%. The 1969 per capita was 78.33% of the national average of $3,687 while in 1966 the State only claimed 76% of the national average. In 1960, North Carolina claimed only 71% of the national figure. This has been a slow but steady rise and, in reality, is another of the main goals of the Division.

AWARDS RECEIVED DURING THE BIENNIUM

The Division's industrial development program received national recognition on two different occasions during the biennium.

The Society of Industrial Realtors awarded the State second place in the 1968 Professional Trophy Awards. This award is recognized by the Nation's industrial development agencies as the most coveted award in the field.

The scope and balance of state-sponsored industrial development programs are evaluated by an independent panel of judges. Fourteen states entered presentations and the state of Ohio was judged first place winner. Virginia placed third.

The panel of judges commended North Carolina's program for its regional office concept to facilitate cooperation among local groups. Also cited was the Division's emphasis on rural development activity and the broad scope of effectiveness of the industrial development program.

The American Industrial Development Council awarded the Division the "Best of Class Award" in the 1968 Literature Awards Competition. The Division's entry, "North Carolina Information," was developed to present current data on plant location factors and the livability advantages of North Carolina to industrial prospects. There were 362 entries submitted by various development organizations at the annual AIDC meeting held in St. Paul, Minnesota. Also, the Printing Industries of North Carolina awarded the printer of one of the books in the North Carolina Information set the outstanding craftsmanship award.

CALIFORNIA MISSION - January 1969

The Administrator led a group of 25 professional industrial developers representing the State's rural areas to California to call on small to medium-size firms located within the Los Angeles and San Francisco areas. Visits were made to 130 firms that showed tremendous growth potential with a present or future need for an east coast location. Many prospects were acquired for the Coastal Plains during this mission.

COMMUNITY AND INDUSTRIAL SERVICES SECTION

Communities which are prepared for industrial and economic development continue to be a major objective of this Section. Two new programs were introduced in January of 1970 to stimulate communities to make themselves more attractive to growth. The North Carolina Governor's Award Program was initiated and by the end of the biennium period more than 65 communities were participating. The Program is limited to communities of under 15,000 population, and is especially helpful to the smaller communities which are not able to afford a full-time development program. The Award is based on the achievement of certain basic criteria which are necessary for growth.

The Industrial Development Team concept represents a sophis-

ticated approach on behalf of a community to land industrial prospects. Comprised of six categories, the Development Team concept enables laymen to become experts on the aspects of their community which are important in attracting industry. This particular Program will grow in importance.

The Governor's Award Program and the Development Team concept will prove helpful in our continuing responsibility to develop and maintain information on industrial sites and available buildings in North Carolina. Work is currently underway to update site information on a county basis. A new technique in handling information on available buildings has been developed and has proved to be of greater value and use than previous methods.

Audits on our North Carolina communities have attained a greater degree of importance in our efforts to attract economic development.

Expansion of existing industry, development of home-grown industry, and servicing the general needs of North Carolina industry is the second major function of this Section. The 1968-1970 biennium was a good year in each of these categories. We are encouraged with the increasing number of North Carolima firms seeking our assistance.

A few of the expansions and home-grown industries the Section worked with include: Expansions—Dayco Southern, Waynesville; Wamsutta Knitting Mills, Morganton; American Components, Robbinsville; J. P. Stevens & Co., Goldsboro; Blue Ridge Shoe Co., Robersonville; Hatteras Yacht Co., New Bern; Burlington Industries, Inc., Oxford; Cochrane Furniture Co., Warrenton; Terminal Communications, Raleigh; Home Grown-Fram Corp., Murfreesboro; Maysville Fashions, Maysville; Hudson Mfg. Co., Bayboro; Columbus Homes, Whiteville; and Plymouth Mfg. Co., Plymouth.

Economic conditions were such that several firms decided not to expand, even though sites had been selected and labor surveys made. We are hopeful that these projects will be reopened in the near future.

As the duties and responsibilities of this Section have multiplied, the 1969 General Assembly saw fit to add an additional staff member to each of our Regional Offices. Each office is now staffed with two men and a secretary.

RESEARCH AND STATISTICS SECTION

The basic service of this Section is to furnish facts on all facets

of the State for the Division's industrial prospects. The Section collects, collates, and files, for ready reference, economic information required to support the industrial development program in the State. These data include not only those of statewide nature but also statistics and general information on the various counties and municipalities. Allied development agencies, business editors, banks, insurance companies, private corporations and others concerned with economic growth also rely heavily on this Section for information.

In addition, the Section is solely responsible for gathering and tabulating data on a continuing basis of the State's industrial growth. These records include the location of new plants, product manufactured, proposed employment, and investment in each enterprise. The same data is assembled on expansions of existing industries. These records make it possible to measure the rate of the State's industrial growth, trends in diversification, and geographic location as well as provide a basis for planning future programs of the Division.

Informational articles and pamphlets showing North Carolina's favorable position in various phases of the economy are prepared and published at regular intervals by the Section. These publications are in great demand not only by prospects but by the general public. The monthly list of new and proposed industries has a mailing list of 1,200 at this time.

The Community Audit forms housed in the Section have been revised and greatly improved during the biennium. The second and "capsule" community data form, which is compiled in the Section, has been improved in both content and appearance. Some 390 North Carolina towns have community audits in the files at this time.

Screening of quarterly and annual reports received from the 500 largest manufacturing firms throughout the Nation is a continuous project in the Section. Pertinent information relative to future expansion plans and new product development furnishes important leads for acquiring additional industrial prospects.

Approximately 14,000 general inquiries have been handled by the Section this biennium. Manufacturers throughout the Nation seeking information on markets, individuals seeking certain goods and services, school children, graduate students, and industrial salesmen make up the bulk of the general inquiries mail. New business created for North Carolina manufacturers by supplying this information is a gratifying part of this endeavor.

THE TECHNICAL SERVICES SECTION

The Technical Services Section is a service arm of the Division of Commerce and Industry which prepares special reports and presentations for many purposes. For potential investors, presentations on markets, distribution, labor, utilities, sites, taxes, and community factors (facilities, livability, education) are common. For the Division's staff, background information and analyses pertaining to economic development are often prepared.

Presentations are also made for general informational purposes. The Division's newsletter originates in the Section, as well as special directories and reports of interest to developers. Examples are the North Carolina Transportation Directory, the North Carolina Data File, the foreign investment brochure, and special market surveys.

In order for the Department to better serve North Carolina's industrial community, an accurate and current information system has been initiated in the Technical Services Section. This Industrial Data System is basically an annual survey of North Carolina manufacturers, and uses electronic data processing equipment to store, arrange and retrieve information on a firm's products, major purchases and capabilities. With this system, markets can be analyzed and opportunities that are uncovered can be brought to the attention of interested firms.

CONSULTANT SECTION
FOOD SCIENCE

There are several paramount reasons why food processing is important for North Carolina. First of all, it creates new and expanding markets for our farm commodities. The food processing industry furnishes steady growth and has exhibited near immunity to fluctuations in business activity and develops more opportunity for the labor force in our State. The productive agricultural areas of our State coupled with seasoned and willing farmers serve as enormous sources of raw products. We are ideally situated to larger populated consumer areas of our country which minimizes distribution costs. At the same time, markets for food products are expanding in North Carolina.

The fact that North Carolina has unusually strong programs to attract all types of industry makes it much easier to refine its programs to attract the food industries. With one-fourth of the nation's consumer dollar going for foods, beverages and related products, it is easy enough to justify increased activity to attract

food industry. Food industries are more dynamic. Factors which contribute to this are: 1) high perishability of most of the products, 2) the diversification of the product mixes, 3) urgency of the distribution, and 4) the large investments required for pushing the products into consumption.

We have several favorable trends in North Carolina that tend to make us extremely optimistic in expanding food industries. Namely, 1) the diversity of our agriculture with improved quality and more uniform yields, 2) Food Science Department at North Carolina State University with excellent staff and research facilities, 3) increasing awareness among State leaders in government, education, research, banks and other agencies of the importance of food industries to the growth and stability of our State's economy, 4) upgrading of agricultural practices, inspection laws and statistical reporting by NCDA and extension service, and 5) an increase in commercial farming and a greater acceptance of improved practices.

The food section is currently working on updating and improving information brochures on specific crops and the potential for food industries in North Carolina. There are many new programs that the food section is trying to develop in the field of agriculture; mainly, catfish farming, mushroom farming and the increase in export sales of farm commodities.

Some of the food processing plants located during the biennium are as follows: Lumbee Farms Cooperative, Lumber Bridge; National Dairy Division of A & P Tea co., High Point; Old Virginia, Inc., Mountain Home; Allied Mills, Inc., Selma; Cargill, Inc., Fayetteville; Sunnyside Eggs, Winterville; New Hope Milling Co., Goldsboro; and Acme Feed Mills, Inc., Burlington.

SEAFOOD

The Seafood Industries Section is the one agency of State government directly concerned with and responsible for the industrial development of our seafood industry.

Full utilization and development of over 360 species that are found in and around our coastal waters, total development of existing industries with emphasis on expansion of processing techniques and marketing followed by the establishment of new seafood related industries, represents the core of our effort.

During this biennium, the concept of fish farming was introduced to North Carolina. The creation of a new eel industry with overseas markets was accomplished. Fifteen new facilities and major expansion of 22 seafood operations with nine additional

new plants in the planning stage highlighted major progress in moving North Carolina into the mainstream of national seafood and related industry prominence.

Some of the new plants announced were Atlantic Seafoods, Hampstead; Caroon Bros., Lowland; Carolina Seafood Co., Aurora; E. H. Mayo & Son, Lowlands; Harry Jarvis Seafoods, Swanquarter; Peel Bros. Fishery, Edenton; Pamlico Dehydrating Co., Bayboro; Swanquarter Crab Co., Swanquarter; and C. M. Muse Seafoods, Pamlico.

Aware that it was our most serious deficiency, this section has proposed a North Carolina Seafood Marketing Development Program which, if favorably considered in the forthcoming General Assembly, will enable our seafood products to compete on a more equitable basis with those from other states. This will increase the ex-vessel prices to our fishermen and provide greater incentive to our processors.

FINANCE

The activities of the financial consultant can be used as an indicator of a major shift in the attitudes of the American manufacturers. In the fall of 1968, high interest rates were beginning to be a matter of concern to many industrial prospects. In late 1968 and early 1969, rates continued to increase to the highest levels in twenty years. Still, manufacturers said "Let's build anyway—price increases in materials and equipment will offset the high interest rates." As this attitude prevailed, more and more companies borrowed money. Accordingly, the simple availability of money became a matter of high concern. In the latter part of 1969, the attitude of prospects began to change. "We've decided to wait for 6 to 10 months," they reported. In reality, corporate managers decided that unused capacity was the most expensive thing they could have. Accordingly, the number of located plants and loan closings declined.

In the last quarter of the biennium, money rates began to decline. Availability of money began to ease. Loans could be had at reasonable rates—and some were closed out. More importantly, prospects began to look forward to better business and new products. New projects are being started and should be reflected in new capital expenditure figure in the second and third quarter of 1971.

Overall, the consultant directly contributed to 19 industrial project financings which totaled $50,150,000. Refinancing plans were successfully arranged in 5 situations where $2,200,000 in new moneys were invested. Financing presentations were made to

prospects being handled by staff men on a regular basis. It is further felt that these presentations and further financing efforts contributed to the location of 20 to 23 industrial plants with a capital expenditure of $27,490,000. It is important to note that the projects differ greatly in size and location. In the Piedmont, three projects required more than $22,000,000 in loans. On the coast of North Carolina, one seafood processor required a $30,000 loan to expand. A manufacturer of quality, stringed musical instruments needed another loan of similar size to build 100 miles west of Asheville, North Carolina.

Other activities included training sessions with members of industrial sales teams and with interested groups within industrial development corporations. Great effort was expended to develop alternatives to industrial revenue bond programs offered in nearby states. It is interesting to note that the 1969 General Assembly passed legislation creating the North Carolina Industrial Development Financing Authority which was designed to make tax exempt bond financing available for the construction of industrial facilities. However, in a test case late in 1969, the State Supreme Court, in a split decision, ruled this financing plan unconstitutional. It is anticipated that new financing plans for industry will be sought from future legislatures because of the interest quality industry has for plans of this type.

EXPORT

This Section, created in 1964 as the Export Section, has gone through a name change to better describe its broad functions.

The general purpose of the International Section is to promote the economic growth of North Carolina through expanded exports of products manufactured and produced within the State, and to encourage foreign companies to establish industrial operations in the State. Ranking 10th in the Nation, the total value of industrial and agricultural exports approached the billion dollar mark during the biennium.

Two honors were awarded to the Section as a result of its activities. The Presidential "E-Star" Award for export service was presented to the Department in May, 1970, by the Secretary of Commerce for continued outstanding contributions to the Export Expansion Program of the United States. North Carolina was the first state to receive this prestigeous award which is coupled with the E Award won in 1963.

The Chief of the Section, Ronald E. McCowen, was appointed to

the Regional Export Expansion Council by the Secretary of Commerce in July, 1969, for a term of two years.

After much study and survey, preliminary arrangements have been made to open an office in the New York World Trade Center. The Ports Authority and the Department of Agriculture will jointly operate this office with the Department. Present plans are to open the office in 1971. This will provide an opportunity to maintain constant contact with foreign firms and foreign governmental agencies located in the Center. The office will be utilized to implement the Export Trade Lead Program, provide exhibit space for North Carolina manufacturers, promote reverse investment, and to promote travel and tourism.

Activities of the Section during the biennium are discussed under the following headings:

In-State Promotion

Sixty in-plant conferences were held throughout the State in cooperation with the United States Department of Commerce to teach step-by-step procedures for carrying on export trade.

Continuous calls have been made to North Carolina manufacfacturers to encourage the export of their products. In addition, many speeches have been made to various civic clubs, world trade clubs and associations explaining the value and advantages of export trade. Also participation in TV panel shows has been especially demanding.

Activity in the dissemination of trade leads has increased noticeably this biennium. The Industrial Data System underway in the Division is valuable in expediting inquiries relative to trade leads.

A 30-second spot announcement was distributed and carried on many TV stations throughout the State encouraging North Carolina firms to export.

Overseas Promotion

In September, 1968, a fact-finding mission to Europe was conducted for the purpose of determining the feasibility of an Agribusiness Trade Mission in cooperation with the Department of Agriculture. The International Exhibition of Groceries and High-Class Provisions was visited in Munich, West Germany. Other international trade fairs were visited in West Germany, the Netherlands, and France in order to determine appropriate exhibit sites for North Carolina manufacturers of industrial and consumer goods.

The Agribusiness Trade Mission to Australia and the Far East held in September, 1969, accomplished several "firsts." It was the first time the Department had organized a trade mission to the Far East. It was the first Agribusiness Trade Mission organized by the Department in cooperation with the North Carolina Department of Agriculture, and believed to be the first such mission organized by any state with the agribusiness concept. Furthermore, it was probably the first mission to Australia and the Far East which incorporated the objective of industrial development; i.e., reverse investment to attract Far East capital investment in the United States, particularly North Carolina.

The mission, composed of 10 North Carolinians representing private enterprise and government agencies, visited Australia, Hong Kong, B.C.C., Taiwan, and Japan. Sales exceeded $500,000 as a direct result of the mission. Similarly, the industrial development objectives of the mission were deemed successful. As a result of a meeting in Tokyo, members of the Japanese Economic Mission to the Southern United States visited the United States in April, 1969. This provided an excellent opportunity to present facts surrounding North Carolina's favorable business climate for investment purposes. Materials relating to industrial development were translated into Japanese for this meeting and the reaction of the Japanese Economic Mission was better than anticipated. Currently, there are several Japanese companies seriously considering North Carolina for the purpose of establishing plant facilities and other operations.

A documentary color film of 30 minutes duration was made during the trade mission. This film has been shown throughout the State as a promotional tool to encourage local firms to export and stimulate interest among North Carolina manufacturers regarding the benefits from trade missions.

The North Carolina Industrial Development Mission to Canada held in May, 1969, was composed of 13 professional industrial development representatives of State government and leading banks from throughout North Carolina. The mission visited the cities of Montreal and Toronto. As a result, many active prospects have been developed for the establishment of plant facilities and other operations in North Carolina.

Presently, there are 55 foreign-owned manufacturing plants and sales and service companies located in North Carolina with total investments nearing one-half billion dollars and employing approximately 13,000 North Carolinians. The Division has found these companies to be very fine corporate citizens for the State

and intends to continue an aggressive program to attract additional capital investments from foreign corporations.

TRANSPORTATION

During the biennium, grants for new airport construction or improvements under the State Aid to Airports Program were approved for the following municipal corporations:

*Cherokee County Airport	$27,500.00
*Macon County Airport	$30,000.00
Sampson County Airport	$ 2,500.00
*City of Elkin	$ 8,000.00
*City of Mt. Olive	$12,500.00
*Oxford-Henderson Airport	$40,000.00
*Macon County	$ 7,500.00
Morganton-Lenoir Airport	$ 2,111.85
Halifax County Airport	$43,500.00
*Martin County Airport	$ 6,253.00
Goldsboro-Wayne Airport	$ 6,500.00

* Indicates New Airport

During Fiscal Year 1970, there were very few requests for State Aid due to the availability of Federal matching funds; however, during Fiscal Year 1971, it is expected that requests for State assistance will far surpass the available State funds due to the passage of the Federal Airways and Airports Development Act which will provide about four times as much Federal Aid over any previous year.

During the biennium, the second State Airport Directory and the first State Aeronautical Chart were published. These were distributed widely throughout the United States.

Close contact was maintained between FAA and airport projects under construction and assistance was given to many communities to promote development of airports or to encourage improvements of existing airports.

It is expected that three new airports will be constructed during Fiscal Year 1971, and extensive improvements will be made to twelve airports. Executive airport facilities continue to play an important role in the attraction of industry to the rural areas of the State.

COMMERCIAL

This is the newest program in the Division. It began in April,

1970, just prior to the closing of the biennium. Realizing that many large corporations are looking for diversified investment opportunities other than manufacturing, a Commercial Investment Consultant was added to the staff to point out lucrative possibilities in recreational facilities, warehousing, and office headquarters building.

Through funds from the Coastal Plains Regional Commission, the firm of Harper, Cotton & Little, Inc., has been employed to do an in depth study of the "leisure industry." With the help of the forthcoming methodology and site forms, a major effort will be made in development of this field.

A survey is underway dealing with office locations. This will be used in a program designed to locate major office complexes in North Carolina.

A program will also be started establishing North Carolina as the distribution center of the Southeast. Many investments can be realized in this area with a little effort on our part.

While the program has been in existence only 2½ months, one company, Buxton Leather Goods, has located a distribution center in Charlotte. A number of land developments will be announced in the near future.

MINORITY ENTREPRENEURSHIP

Realizing the need for a program to aid minority business, a new program was introduced during the biennium and came into being in September, 1969. A good bit of time has been spent formulating guidelines and instigating special projects. Progress has been made in consulting with potential minority business people relative to establishing manufacturing facilities.

The Division has taken a group of Black leaders on a mission to attract additional minority-owned industries to North Carolina and is setting up a program to encourage the State's leading industries to consider sponsorship of new minority industries.

A cataloging of existing minority businesses in the State has been published. Underway is an inventory of sources of funds that are available for use in establishing minority business enterprises.

Plans are in the making at this time to form a Small Business Management Training Program to help the minority businessman. As potentially successful minority businessmen are identified with this program, then, it is hoped new businesses and industries owned and operated by the minority people of the State can be formed with the sponsorship of the State's large business interests.

DIVISION OF COMMERCIAL AND SPORTS FISHERIES

The Division of Commercial and Sports Fisheries is responsible for the conservation of North Carolina's marine fisheries resources. Its programs are designed to allow the largest harvest of seafood species and sport fish as possible, year after year.

To keep the harvest at a maximum sustained level, the well-being of the fish becomes as important as the well-being of the fishermen. Fish must have so much food, clean water, and so many places in which to hide. The catch goes down in ratio to these necessary elements when they are removed from the natural environment.

The Division of Commercial and Sports Fisheries serves all the people of North Carolina. More closely, it serves the fishing public, commercial and sport fishermen—but conservation (wise-use) practices are directed for the people as a whole.

LAW ENFORCEMENT

The Law Enforcement Section enforces fisheries laws and regulations in coastal waters. Taxes on seafood are collected. Records of fish landings are kept. Commercial fishing boats are licensed. Oyster and clam bed leases are handled. Inspectors maintain surveillance over coastal engineering projects. The section also works closely with State, Federal, academic, and private research and development projects.

Inspectors are responsible for patrolling and posting over 55,000 acres of shellfish growing areas which are closed by the State Board of Health due to pollution. Law Enforcement personnel cooperate with the Shellfish Sanitation Section of the State Board of Health in the enforcement of their laws and regulations.

In order to provide protection for natural resources, the 1969 Legislature passed a requirement that on January 1, 1970, any person, firm, or organization wanting to do dig or fill work in North Carolina coastal waters would be required to receive a permit from the Department of Conservation and Development, Fisheries Division. This gave the Division a chance to minimize harm to the natural resources. During the first six months the permit was required, the Division received 105 applications. Inspectors kept surveillance on the projects.

Law Enforcement personnel assisted the Research and Develop-

ment Section in its oyster rehabilitation program of relaying oysters and planting shells and marl, and keeping these areas posted. This unit also supervised the relay of shellfish from polluted waters to private oyster and clam bottom leases.

An addition to the fisheries law enforcement fleet is a 61 foot law enforcement patrol boat christened by Mrs. Roy G. Sowers, Jr., wife of the Conservation and Development Director. The RALEIGH BAY is used to enforce fisheries regulations in Pamlico Sound and the ocean.

The fisheries law enforcement inspectors patrol the deep waters with three large boats (38 to 45 feet in length), and a fleet of 18 foot run-abouts with outboards. Two pontoon-equipped airplanes, automobiles, two-way radios, plus the boats, give inspectors versatility, mobility, and speed to do a good job.

During this biennium, the Division had 41 field inspectors and supervisors, the same number as authorized by the 1961 General Assembly.

The Law Enforcement Chief and his office staff were located in Morehead City with Fisheries inspectors stationed in 25 coastal counties.

FISHERIES PRODUCTION

Shellfish	**1968-69**	**1969-70**
Shrimp (lbs.) heads-off	2,376,126	3,797,634
Oysters (bu.)	76,679	80,099
Clams, Rangia (bu.)	7,284	4,733
Clams, Hard (bu.)	28,815	31,302
Scallops, Bay (gal.)	79,793	26,961
Scallops, Calico (gal.)		59,043
Soft Crabs (doz.)	33,584	22,615
Hard Crabs (lbs.)	23,211,117	22,986,032
Finfish		
Food, all (lbs.)	35,519,295	33,915,784
Menhaden (lbs.)	165,635,588	168,522,876
Thread Herring (lbs.)	2,723,550	4,442,100
BOAT LICENSES	1968-69	1969-70
	9,640	9,995

Boat licensed with the State of North Carolina, Fisheries Division, are used for commercial fishing of one form or another. Not all the licensed boats belong to full or part-time commercial fishermen. Many pleasure fishermen harvest seafoods.

RESEARCH AND DEVELOPMENT

The Research and Development Section is involved with many

activities that will help North Carolina fishermen catch more shellfish and fin fish. Some efforts have immediate benefits, such as locating new fishing grounds and planting materials for oysters to grow on. Other activities, such as tagging fish and lobsters, give biologists more information on life histories of important seafood and sport species. When enough data is accumulated, biologists can authoritatively suggest management practices that will better conserve our marine fisheries.

During this biennium the Research and Development Section, established in 1964, grew from 16 to 19 staff members.

Searches For More Seafood

A fishing-research vessel bearing the name of ex-Governor Dan Moore has been used since 1968 for exploratory fishing and research of ocean fin fish and shellfish along coastal North Carolina. The 85 foot vessel is rigged and equipped to do any of the commercial fishing that takes place in North Carolina. It can be used to try gear not presently used.

The goal of the exploratory fishing project is to help commercial and sport fishermen of this State better utilize North Carolina marine fishery resources. Aboard the vessel are two biologists and seven crew members.

The DAN MOORE completed exploratory cruises in search of commercial quantities of fish, scallops, lobsters, and clams. The findings were passed on to commercial fishermen.

A tagging program of North Carolina lobsters has begun. More than 1,000 were tagged and released east of Oregon Inlet (along the edge of the continental shelf) to Chesapeake Bay in 90-200 fathoms. Several thousand striped bass, sturgeon, croaker, spot, and gray trout were tagged and released. Later, when a fisherman catches a tagged fish and returns it to Division biologists, they will have information on migration and growth. Many tags were returned and Division biologists were able to gain valuable information on the different species.

Outstanding among the DAN MOORE'S contributions was the discovery of large calico scallop beds offshore Carteret County. One bed was eight miles long and two miles wide. Commercial fishermen worked the beds extensively and several thousand dollars worth of calico scallops were brought in.

The DAN MOORE towed to sea two old tugs that were scuttled for artificial reefs to attract fish for sport fishing.

Helping the Oyster Industry

For years people in North Carolina have removed oysters from

their natural habitat and destroyed the materials young oysters need for attachment and survival. To help offset the trend of taking from the sea and giving nothing in return, a program of oyster rehabilitation was inaugurated in 1947 and has continued.

Essentially, the oyster rehabilitation program is designed to increase oyster production in North Carolina. One phase is to scatter great numbers of solid objects in estuarine areas where oysters are known to grow. Oyster and scallop shells have been used for this purpose because they're available and because young oysters readily attach to them. Another phase of the program consists of transplanting small live oysters from polluted waters and slow growing areas to waters better suited for growth.

During the biennium, more than 240,000 bushels of shells were planted and approximately 143,000 bushels of oysters were relocated from polluted waters and from slow growing areas. The total plants were only a small fraction of what was needed.

A new phase of this program, using marl as a substitute for shells, was initiated in 1968. Marl is an earthly deposit that contains a substantial amount of calcium carbonate, the same substance that's in oyster and scallop shells.

Fin Fish Studies

Life history studies of croaker, spot and gray trout were initiated with some tagging done aboard the DAN MOORE. By studying individual scales of the species, ages of fish were determined. Food habits of anadramous fish also were studied.

Shrimp Studies

A three year study on shrimp migration, growth, and mortality was completed and the final report prepared (MIGRATION, GROWTH, MORTALITY OF N. C. PINK AND BROWN PENAEID SHRIMP). Other shrimp studies continued including pumping up hibernating shrimp buried in the mud in the winter.

3-D Oyster Studies

A three year study on the possibilities of growing oysters off-the-bottom was completed and the report prepared (DEVELOPMENT AND EVALUATION OF NEW CULTCH MATERIALS, AND TECHNIQUES FOR THREE-DIMENSIONAL OYSTER CULTURE). Various kinds of materials to which oysters attach and grow were tested. Materials were placed on stringers, shish kebab fashion, vertically in the water. Young oysters attached to the plates and growth was good, in many cases. But at this time, 3-D oyster growing was considered economically unfeasible for North Carolina oystermen.

Crab Studies

A year study on blue crabs was initiated after several outbreaks of mass crab mortalities occurred (mainly south of North Carolina). During the year study no mass mortalities occurred, so data collected could not be correlated to cause. Pesticide residues were found in all blue crabs.

Estuarine Survey

The Fisheries Commissioner was directed by the 1969 Legislature to conduct a study of North Carolina estuarine lands and waters and "produce a comprehensive and enforceable plan for the conservation of the resources of the estuaries, the development of their shorelines, and the use of the coastal zone of North Carolina."

The Commissioner was to have the help of nine State departments and four Federal departments to complete the study and subsequent plan, and have a report prepared for the Governor by November 1, 1973.

Division fisheries biologists began a fin fish and shellfish survey in New Hanover County as part of the estuarine study. After the initial inventory, sampling stations were established and fin fish and shellfish populations sampled monthly.

Division personnel began coordinating the study with state, federal, county, and municipal officials. The study area encompasses 25 counties.

ESTUARINE STUDIES

In September of 1969, the Estuarine Studies section was established in the Fisheries Division to safeguard the state's 2,300,000 acre estuarine area. The State had only suggestive power in guiding dig and fill projects in the estuaries until January 1, 1970, when a new permit system for estuarine alteration (outlined under Law Enforcement Section) was initiated.

The Estuarine Section, through the authority of the State permit, works with individuals, firms, and governmental agencies that plan alteration projects in the estuaries, such as housing and navigation projects. The section emphasizes digging and filling that do as little harm as possible to the natural habitat. Shallow estuarine areas are vital to marine fin fish and shellfish.

A program to gather sport fishing statistics was intiated. Data on launching areas, fishing piers, charter boats, and camping areas were also gathered and made available to the public.

There are four members of the estuarine staff.

SEASHORE

In 1969 the Seashore Advisory Board was created.

The Board is concerned with progressive, intelligent development of the coastal area and seeks solutions to current coastal problems. A full-time Division employee coordinates the Seashore Advisory Board's activities.

ADMINISTRATION

The Administrative Section directs research, enforcement, estuarine studies and works with the Seashore Board. It is the contact point with the legislature, state agencies, federal agencies, academic institutions, and private organizations.

The new position of Assistant Commissioner was added to help ease the increasing responsibilities of the Fisheries Commissioner. The Commissioner formed a Sports Fishing Action Committee and a Trawler Boat Captains Committee.

The Administrative Section maintained contacts with news media and the public. The quarterly newsletter was increased to a monthly publication and renamed TAR HEEL COAST. A new program of distributing DAN MOORE ACTIVITIES BULLETIN'S was started. Two publications for the public were produced: TO CATCH A MILLION FISH (about North Carolina commercial fishing gear) and MARINE FISHES COMMON TO NORTH CAROLINA.

The Fisheries Division is understaffed in many areas of needed studies, and consequently contracts needed research when possible. Fisheries research and seafood quality are the main contractual work. Contractual work completed and results published this biennium: A STUDY OF THE QUALITY OF NORTH CAROLINA'S SCALLOPS; EFFECTS OF PROCESSING ON THE QUALITY OF SCALLOPS, OYSTERS, AND BLUE CRABS; QUALITY CONTROL AND OPERATING MANUAL FOR THE SCALLOP INDUSTRY.

DIVISION OF FORESTRY

During this biennium the Division has been involved in major program expansions resulting from increased support of the State's forestry program by the General Assembly. This report reflects a period of reorganization, personnel recruitment, equipment acquisition, and training to implement this growth.

The new program activities are expected to improve major deficiencies in forest fire prevention, reforestation, forestry assistance to landowners, and hardwood management. Of particular significance is the new Forestation Program, which offers to private landowners specialized forestry practices using State equipment and crews on a custom fee basis. The program is the first of its type undertaken on a major basis by a state forestry agency. It is aimed at the most serious forestry problem in the Southeast, the rehabilitation of understocked forests lands overgrown with worthless brush and cull trees.

This report presents the highlights of the several forestry field programs and the activities of the support Branches of Engineering and Administration.

FOREST ENGINEERING

The Forest Engineering Branch has the primary function and responsibility of providing broad engineering services to the N. C. Forest Service's field activities and programs. Activities of this branch are concerned with lands, improvements, and equipment including communications and aircraft.

Lands

State ownership of the 140 acres of forest land on Rendezvous Mountain has been contested in Wilkes County Superior Court and there are indications this property may be turned over to the N. C. Forest Service during the next biennium.

Fourteen small sites for field administrative units or lookout towers were acquired by purchase, lease, or renewal of leases. Five of these were for combination county headquarters and equipment shelter use. An additional seven were acquired for use as tower sites.

Improvements

Three new district headquarters offices were constructed and two district warehouse and shop buildings, involving major additions, were completed.

An aircraft hangar was completed at the Whiteville airport. The building provides storage for two aircraft, quarters for six pilots, and a communications room.

Three large open frame equipment shelters were constructed at district headquarters sites.

A radio workshop and storage building was completed at one district headquarters.

Three small tower residence buildings were completed at lookout towers.

Combination county headquarters and equipment shelter buildings were completed providing much needed facilities in three counties.

Equipment

The N. C. Forest Service owns a fleet of 70 crawler tractor-fireline plow units with transport trucks used primarily for forest fire suppression. An additional 13 crawler tractor bulldozers are owned and operated by the Forest Service for fire suppression, forest management and construction work.

The Forest Service operates an airwing of 22 aircraft used in forest fire reconnaissance, aerial delivery of fire retardants, cargo transportation, and forest pest control surveys. Five of these aircraft are on loan from the military services.

A fleet of several hundred pickup trucks is operated by the Forest Service across the State. All Forest Service mobile equipment area headquarters are connected by a network of two-way communication radios.

ADMINISTRATION

Personnel classifications of two primary groups of employees, the County Forest Ranger and the Forest Fire Equipment Operator, have been significantly improved. The improvement allows for recruiting men with higher technical skills thus improving the level of performance and service of each class.

The County Forest Ranger position recognizes forest technician training as the standard. We are able to recruit from the graduates of technical institutes or to train men within the organization. This will give us a first line supervisor better prepared to carry out our forestry program. The Forest Fire Equipment Operator position requires skills and abilities generally not available in other types of work. A training program has been developed to train these men, who are required to perform in hazardous fire situations.

In both cases we have developed training progressions that

identify different levels of learning and performance in these positions. The Personnel Department has provided a salary structure that appropriately rewards an employee's progress through the program.

The Forest Service has increased its program activities dramatically over the past two years. This growth is reflected in personnel expansion. There are now 509 full-time employees, including 97 graduate foresters. This force is supplemented with some 500 seasonal employees.

FOREST FIRE CONTROL

The establishment of a Fire Prevention and Law Enforcement Section within the N. C. Forest Service was authorized by the 1969 Legislature. This Section is responsible for the formulation and dissemination of information concerning fire prevention and other forestry related operations and the enforcement of North Carolina's laws concerning the forest and their use.

The Section became operational in July 1969 with the appointment of a Senior Staff Forester as Section Head, a stenographer based in the Forest Service Headquarters in Raleigh, and three Fire Prevention Foresters with offices in Sylva, Rockingham, and Clayton. The remainder of the personnel in this Section, three Law Enforcement Specialists, one Communications Specialist and one additional stenographer, will complete the staffing of this Section after July 1970.

Progress had been made in the last two years in reducing the number of forest fires and acres of forest land burned. Part of the success results from more favorable weather conditions and emphasis on fire prevention with the addition of a Fire Prevention Staff. Success in reducing the total number of acres burned is partly the result of increased fire control skill learned at intensive training programs conducted on the regional, district, and county levels. The use of new and improved fire control equipment, refinement in the use of contract aerial tankers for initial attack, and the use of Forest Service owned small air tankers in support of ground forces have added greatly to the reduction in total acres burned.

The largest fire during the report period occurred in the Green Swamp in Brunswick County on May 8, 1969. It burned 14,700 acres of forest land before being brought under control on May 13. Control of fires was hampered by severe fire weather caused by low relative humidity, high winds, and unstable atmospheric conditions.

Three B-17 type air tankers were contracted for 60-day periods during April and May of 1969 and 1970. These large air tankers, each capable of carrying 2,000 gallons of chemical fire retardant, were instrumental in preventing additional large fires during the biennium.

Teletype was used for the first time during the spring of 1969. Units were installed in all district offices in the coastal region, the Central Office in Raleigh, and the Weather Bureau at the Raleigh-Durham Airport. The teletype system is used to transmit fire weather information and routine fire communications.

The Forest Service lost a single engine, observation plane while assisting the U. S. Forest Service on a forest fire in the Croatan National Forest. The plane was being used to direct aerial delivery operations when it was forced into a crash landing by erratic wind behavior in the fire vicinity. Miraculously, the two pilots were not injured and were rescued by military helicopter. The aircraft was burned and totally destroyed a short time later.

Training in appropriate readiness to meet existing fire weather conditions and fire control techniques was emphasized in the Ranger Training Schools. Air Attack and Basic Forest Fire Equipment Operator Schools were also conducted during the biennium. The Air Attack School consisted of training in aerial scouting, fire weather, fire behavior, forest fuels, forest fire control equipment capabilities and limitations, and coordination of aerial attack on ground operations in forest fire suppression.

Forest Fire Control Memoranda of Understanding with the State Highway Commission, State Highway Patrol, Wildlife Resources Commission, and Department of Correction was revised. Three have been revised and the Memorandum of Understanding with the Department of Correction was continued without change.

Fire statistics for the last four calendar years are shown as follows:

	1966	1967	1968	1969
Area Under Protection	17,819,500	17,819,500	17,819,500	17,819,500
Number of fires	4,626	5,501	6,372	4,177
Area Burned:				
Forest Land	119,391	96,079	69,822	62,224
Non-forest Land	6,614	4,367	10,834	5,030
Total	126,005	100,446	80,656	67,254
Damages				
Forest Land	$4,178,685	$3,362,765	$2,583,414	$2,302,288
Other	181,568	170,193	348,639	307,161
Total	$4,360,253	$3,532,958	$2,932,053	$2,609,449

Conclusion

Fire occurrence seems to have peaked in 1968 and has continued to decline through June of 1970. Total acreage of forest land burned and total monetary damages have declined during the past four years. This trend will probably not continue when fire weather conditions again occur as they did in 1966.

COOPERATIVE PROGRAMS

Small Watershed Program (PL566)

The North Carolina Forest Service provides technical forestry assistance to landowners in 25 small watershed projects in North Carolina.

The PL-566 program authorizes technical and financial assistance to landowners within small watershed boundaries to reduce flooding of cropland and protect watersheds. Federal funds are made available to the State Forest Service for the purpose of accelerating forest management assistance and the adoption of practices which improve forest soil hydrology and reduce flooding in 13 of the projects. A total of 146 acres of critical soil erosion areas have been stabilized by planting with trees.

Assistance has been provided in determining forest resource requirements for developing watershed work plans for seven projects. Two new watersheds, Cane Creek in Union County and Swift Creek in Beaufort, Craven and Pitt counties, were approved for operation during the biennium. Two projects were completed and assistance terminated.

Comprehensive river basin studies are in progress in the Upper Cape Fear River and the Santee River. The State Forest Service assisted the U. S. Forest Service in making the Forest Resource studies.

Appalachian Regional Development Act—1965

The Land Stabilization and Conservation Section of this Act (Section 203-ALSCP) authorizes financial assistance to landowners in the Appalachian counties in establishing practices which conserve and develop soil, water, woodland, wildlife, and recreation resources. Funds in the amount of $389,571 were made available during the 1968 and 1969 calendar years. North Carolina specified that 25% of this allocation, or $97,393, be used for the forest conservation practices.

A study to determine the feasibility of non-profit timber development organizations in Appalachian counties were also authorized.

A preliminary study in North Carolina indicated landowner interest in several Northwestern counties. The study is being continued.

Resource Conservation and Development (RC&D)

The North Central Piedmont RC&D project, involving Alamance, Caswell, Chatham, Guilford, Orange and Rockingham counties, became operational during the biennium. The purpose of an RC&D program is the development and full use of all of the resources, both natural and human, of an area. An RC&D forester, employed by the N. C. Forest Service, assists local sponsors and local landowners in planning for the full development of the forest resources of the area.

A second project, the Southwest RC&D project, comprising six or seven counties of southwestern North Carolina, is being reorganized from a former three-county Rural Renewal Project.

Agricultural Conservation Program (ACP)

The N. C. Forest Service provides technical assistance and approves the forestry practices of the Agriculture Conservation Program. Under this program, the government shares with landowners the cost of establishing and maintaining soil and water conservation practices.

Farmers and forest landowners planted 21,036 acres with forest tree seedlings and completed 3,026 acres of timber stand improvement under this program during 1968 and 1969. The federal share of the cost was $333,909.

Industrial Forestry

Two publications, "Buyers of Forest Products in North Carolina" and "Forest Products Drain," were updated and reprinted in 1968.

The "Buyers of Forest Products in North Carolina" lists sawmills and industries purchasing stumpage. The "Forest Products Drain" lists the total volume purchased by these industries in each county.

FOREST MANAGEMENT

North Carolina's forests occupy 65% of the total land area of the State. This renewable natural resource provides the raw material for the wood-using industries and wages and profits for that segment of the population who grow, harvest, transport, process and manufacture forest products. In the past forest management activities have placed almost complete emphasis on timber production. However, with the ever-increasing demands placed upon the land

by an expanding population, our efforts in forest management are being broadened to embrace the multiple benefits of watershed development, wildlife habitat improvement, recreation development, and scenic improvement.

Over 78 percent of the 20 million acres of commercial forest land in the state is owned by individuals—farmers, merchants, doctors, lawyers, housewives and others. Eighty-seven percent of these individuals own tracts of less than 100 acres. Past experience and studies have demonstrated that these private, non-industrial owners are the least willing of all groups to practice forestry.[1] Since over three-fourths of the state's woodlands belongs to this group of landowners, their lack of performance is of vital concern to the Forest Service.

The thrust of the N. C. Forest Service's forest management program is directed primarily toward these vitally important, but weakly motivated individuals. The present approach utilizes persuasion in an effort to encourage landowners to practice forestry. A total of 20 Service Foresters and eight County Foresters devote all or most of their efforts to giving forest management assistance to private forest landowners. Other Forest Service foresters devote a portion of their time to providing management assistance. In addition, qualified forest technicians provide management assistance by carrying out recommendations made by the foresters.

Professional forestry advice and assistance is available to the landowners from the Forest Service upon request. A forester will make an examination of the property and evaluate the present condition of the forest area. At the time of the examination, he will also access the potential for timber growth, wildlife development, recreation development and improving conditions affecting water quality. The forester then discusses these conditions with the landowner, recommends a plan of action that will benefit both the landowner and the forest resource, and encourage the landowner to implement the plan.

Oftentimes these plans include recommendations for reforesting unproductive lands. Many of these services are offered on an actual cost basis to landowners through our forestation program which was initiated in 1969. This program is discussed in more detail in the Field Projects Section of this report.

A continuous in-service forest management training program is maintained by the Forest Service. The purpose of this training is to upgrade the abilities of the non-forester personnel in the organi-

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Anderson, W. C. Factors Influencing N. C. Landowners to Practice Forestry, 1968.

zation in order to allow them to carry out the forest management prescriptions made by the foresters. Additional training is also offered to the foresters on a short-course type basis. During the period of this report special training was given in forest taxation and in recognizing and improving wildlife habitat. These training sessions were held in cooperation with the U. S. Forest Service and the N. C. Wildlife Commission.

Emphasis has been given to encouraging Christmas tree growing and marketing by private landowners. The booklet entitled "Growing Christmas Trees in North Carolina" was published and distributed in cooperation with the N. C. Agricultural Extension Service.

Following is a summary of forest management assistance offered by private landowners in North Carolina during a biennium:

SUMMARY OF FOREST MANAGEMENT ASSISTANCE

	68-69	69-70	Total
Total Landowners Assisted (No.)*	5,553	5,919	11,472
Landowners Assisted in Forest Management (No.)	4,870	5,260	10,130
Requests Unable to Service (No.)	467	618	1,085
Total Forest Area Examined (Acres)	170,929	198,497	369,426
Volume Marked (Bd. Ft.)	34,471,000	17,543,000	52,014,000
Volume Marked (Cords)	59,046	45,924	104,970
Volume Harvested Under Improved (Bd. Ft.)	39,074,000	68,665,000	107,739,000
Management Practices (Cords)	81,704	49,344	131,048
Gross Returns to Landowners	$2,232,479	$1,723,612	$3,956,091
Acres Planted	7,703	8,957	16,660
Referrals to Consulting & Industrial Foresters (No.)	197	152	349
Custom or Contract Projects Completed (Acres)	5,432	9,178	14,610

* Includes assistance given through other governmental agencies

PEST CONTROL

General

The scope of forest pest control activities in the State are generally classified into two categories: Program Activities and Project Activities.

Program activities involve assistance to landowners with insect or disease problems, training Forest Service and cooperator personnel, statewide surveillance, and the evaluation and testing of possible control methods. Normally on-the-ground assistance to landowners is accomplished by field foresters while unusual

problems are handled by one of the two Pest Control Foresters. Statewide surveillance is done by N. C. Forest Service personnel in cooperation with forest industries. Information concerning detection is submitted monthly to the Pest Control Staff and published for public use.

Project activities currently consist of controlling white pine blister rust, southern pine beetles, and oak wilt.

White Pine Blister Rust

The white pine blister rust project is being conducted in Ashe, Avery, and Watauga Counties. Potential planting sites are surveyed and the disease's alternate host (Gooseberry) is destroyed in a 400 foot area surrounding the proposed white pine site. Established white pine plantations are resurveyed annually to prevent reinvasion by the Gooseberry bushes, especially around high value Christmas tree plantings. During the past biennium, 56,586 acres were surveyed as part of this project and 473 landowners were assisted.

Oak Wilt

The oak wilt project consists of aerial surveying Buncombe, Haywood, Madison, Swain, Jackson and Burke Counties. Subsequent ground checks locate suspect trees and, upon positive identification of the disease as the cause of death, the tree is cut and treated to prevent further spread. This work is done entirely by the N. C. Forest Service Pest Control Staff. Because of the very low incidence of the disease during the past year, no treatment of diseased trees was undertaken.

Southern Pine Beetle

The southern pine beetle control project is currently the major forest pest activity in the State. Control action involves making operational surveys in the 37 active counties and plotting all infested trees. Landowners affected are subsequently notified and encouraged to have the trees immediately cut and utilized as pulpwood or sawtimber. A total of 4,205,200 acres of host type exist in the infested regions. Three aerial surveys are made on most of these acres annually and at least one survey made over the entire area. During the past biennium, a total of 32,318,113 board feet and 61,372 cords of pulpwood has been salvaged as a result of the pine beetle project. The sale of salvaged timber returned a total of approximately $1,053,438 in receipts to landowners involved.

BLADEN LAKES STATE FOREST

The Bladen Lakes State Forest, a 36,000-acre demonstration of practical forestry practices, continued to serve as an example and training area for students, foresters and private landowners.

Since its inception in 1939, all projects and programs have been completely supported from forest receipts. At no time have any tax funds been used for its operation, development or expansion.

During the biennium, receipts from the sale of forest products totaled $525,622. Of this amount $24,552 was paid to the County of Bladen in taxes and $7,069 was turned over to the local district fire control organization to provide intensified fire protection. In addition, the State Forest continued to provide complete financial support for the operation and expansion of the longleaf pine portion of our Tree Improvement Program.

A partial list of major expansion and protection projects instituted or completed during the biennium would include: 545 acres disced for planting; 919 acres chopped or burned for planting; 1,134 acres planted with selected species; 60 acres cleared for seed orchard establishment; 385 acres of young pines released from competing low-grade hardwoods; one mile of new road constructed; 942 acres burned with prescribed fires; 115 miles of road shoulders disced on both sides; and over 720 prevention letters sent to local residents as fire prevention measures.

Even though extremely hazardous conditions existed at times, no fire of any consequence burned on the State Forest during this period.

FORESTATION

The 1969 Legislature authorized the North Carolina Forest Service to cooperate with non-industrial woodland owners of North Carolina in converting non-productive woodlands to productive woodlands by providing forest development services.

Initial activities centered about organizing, equipping and training the Forestation Section. By June 30, 1970, the intial organization had been established and program activities had begun.

As one of the major objectives of the program, the participation of private contractors is actively supported to provide the necessary forest development services. Another primary goal is to provide a trained ready reserve of men and equipment to reinforce existing forces during critical fire situations.

By the end of fiscal year 1970, equipment on hand consisted of

four crawler-tractors, three K-G shearing blades, seven brush-choppers, and one bush and bog disc. All this equipment, plus the necessary auxiliary equipment, is designed for site preparation work. Two tractor-mounted mist blowers, two back-pack mist blowers, tree injectors, and other hand tools were on hand to be used in timber stand improvement activities and for tree planting.

Accomplishments of the program by the end of the fiscal year were: 2,015 acres of tree planting, 695 acres of timber stand improvement, and 3,697 acres of prescribed burning.

The late delivery of site preparation equipment, the difficulty of recruiting experienced equipment operators, and necessary equipment modification interferred with preparation work. Despite the difficulties encountered, three hundred acres of site preparation were done.

Private contractors using brush choppers purchased by the Forest Service, for the specific purpose of rental to contractors, prepared an additional 1,534 acres of land for planting.

Activities during the forthcoming biennium can be expected to witness a tremendous growth in the forest development work carried out by the Forest Service and private contractors working in conjunction with the Forest Service.

HARDWOOD PROGRAM

The Forest Service, realizing the lack of hardwood forestry knowledge and the importance of hardwoods to the State's wood-using industries, has an expanding Hardwood Management Program. Primary emphasis is being placed on improving regeneration, management, and utilization practices for high-valued hardwood species.

During the biennium two major projects were completed:

1. North Carolina Forest Service personnel, cooperating with North Carolina State University's Hardwood Research Program, completed the compilation of data for a Hardwood Growth-Yield Study. Detailed measurements were taken on fifty one-fifth acre plots. This data, combined with similar data from seven hundred additional plots compiled by the 18 other cooperators in the program is being analyzed by the University.

2. A two year work-study program, in cooperation with Virginia Polytechnic Institute, to evaluate the Yellow Poplar plantings within the State between 1947 and 1966 has been completed. The sale of seedlings and the outplanting of Yellow Poplar

during this 19 year period was largely in response to demands by landowners without the benefit of technical forestry guidance. The plantings proved to be essentially a failure. The results of this study emphasize the need for the progressive Hardwood Management Program.

Projects started and in progress are:

A. Fifty hardwood study areas have been established in 36 counties, totaling approximately 100 acres. Over 500 plots of single or multiple tree stands are undergoing individual treatment and the reactions observed. The plots are designed to study every conceivable variable which may effect the artifical regeneration of commercially important hardwood species. Annual observations are made with the results published in newsletter form.

B. As a member of the North Carolina State University Hardwood Research Group, the Forest Service is actively engaged in three studies:

   1. A pre-commercial thinning study to determine the effect of stand density on growth, stand development, and rotation age in hardwood stands 10 to 15 years old.

   2. A commercial thinning study to determine the growth and quality response of young, merchantable hardwood stands following thinning.

   3. A black walnut seed-source study to determine the variation that exists between geographic regions within the State.

C. Cooperative studies involving species-site studies and effects of nursery cultural practices are underway with T.V.A. and the United States Forest Service.

D. The State Nurseries are conducting studies to determine:

   1. Methods of seed storage and handling

   2. Effects of root and top pruning

   3. Desired rates of fertilization

   4. Need for transplanting and coppicing before outplanting

E. Visits have been made to the majority of the hardwood growing areas within the United States to observe the latest management practices and techniques.

F. A periodic newsletter "Hardy Hardwood's Observations" is

currently being published to keep North Carolina Forest Service personnel and other interested parties informed of the latest happenings in hardwood management. Over eight hundred copies of each issue are distributed throughout the country.

NURSERIES

The North Carolina Forest Service operates forest tree nurseries in Avery, Burke, Johnston, and Wayne Counties. During the biennium, over 106 million seedlings were produced and distributed. This represents an increase of 16 million trees distributed over the 1966-1968 biennium and 38 million more than in the 1964-1966 biennium.

On January 30, 1970, the Clayton Nursery was renamed the Griffiths State Forest Nursery in honor of Assistant State Forester Phillip A. Griffiths who headed the nursery program for many years and retired on January 1, 1970.

Initial seedling crops were established on the new Linville River Forest Nursery in Avery County. Development of the primary nursery production area, including land grading and installation of the irrigation system, was completed.

The demand for custom grown seedlings for the pulp and paper industry increased to approximately 40 million seedlings during the period. The second industrial forest tree nursery was established in 1969-1970. This will be a factor in future production from the State Nurseries.

The requirements of the Forestation Program boosted nursery production by over three million seedlings. It is anticipated that this program will offset some of the reduction created by establishment of pulp and paper company nurseries.

Emphasis continues in the production of hardwood seedlings for use in hardwood improvement studies. The goal is to produce species adaptable to all forest sites.

The following tabulation shows the total sale of seedlings by fiscal years:

YEAR	1966-1967	1967-1968	1968-1969	1969-1970
Total Seedlings Sold	43,303,000	46,709,900	54,209,500	52,060,500

RECREATION

The Board of Conservation and Development, at its February, 1970 meeting, defined the North Carolina Forest Service's role in

the field of recreation as a function of conservation education through approval of the following resolution:

"WHEREAS, the protection, development, and wise use of the forest resources of this State through the practice of scientific forestry affects both the economic and the environmental well being of all North Carolinians, and

WHEREAS, the need exists throughout the State to make the public more aware of the values of these resources and of the nature of forestry practices useful in the enhancement of these values, and

WHEREAS, these needs can best be met by providing conservation education as a function of forest recreation through the establishment of small public forest areas with day use recreation facilities and demonstration forests designed to interpret the forest resources and the practice of forestry, and

WHEREAS, investigation shows that such activities would not conflict but would complement the State Parks Program, and

WHEREAS, the operation of areas of this type is most consistent with the program objectives of the Forest Service, and

WHEREAS, there are now lands controlled by the Forest Service which are suitable for this purpose and statutory exists for the acquisition of additional lands for this purpose by purchase, lease, or gift, now

THEREFORE BE IT RESOLVED, that the Forest Service of the Department of Conservation and Development expand its program to include this concept of conservation education as a function of forest recreation, take appropriate action to secure necessary funding, and initiate this program as the availability of funds allows on lands now under its control and upon lands acquired for this purpose."

SPECIAL PROJECTS

The Special Projects Section is responsible for all assignments to the North Carolina Forest Service, and all internal functions, which do not fall within the framework of other sections or branches. Many projects were carried out including forest management work on public lands, membership on the State Recreational Task Force, the State Committee on Natural and Scenic Rivers, specialized training in various fields, and similar functions. Outstanding projects were the leadership in forest tree planting on the

Outer Banks and planning work for the proposed Forest Service Center on the New Hope Reservoir area.

TREE IMPROVEMENT

Seed orchards are now established on North Carolina Forest Service land in Avery, Bladen, Burke and Wayne Counties. There are a total of one hundred and seventeen acres now in seed orchards. Species included are white, longleaf, loblolly, shortleaf, Virginia pond, and pitch pine, Fraser fir and sycamore.

The Fraser fir and pitch pine orchards were established on the Linville River Forest Nursery during the biennium.

Transfer of 20 acres of loblolly pine seed orchards from Claridge Nursery in Wayne County to the Bladen Lakes State Forest was initiated. This move is necessary to implement seed orchard expansion and to provide needed nursery production acreage.

Emphasis is being placed on expansion of primary pine orchards and on location of select hardwood trees for use in the Tree Improvement Program. A study of fume resistance in white pine has been initiated.

DIVISION OF GEODETIC SURVEY

The Division of Geodetic Survey is the official representative of the Department of Conservation and Development in the field of Geodesy in the establishment of precisely monumented stations on the North Carolina Coordinate System. The Division works in close cooperation with the U. S. Coast and Geodetic Survey, and all work is adjusted and published into the national network of horizontal stations by the U. S. Coast and Geodetic Survey. The Division of Geodetic Survey was created by the 1959 General Assembly. The duties of the Division are "to make or cause to be made from time to time such surveys and computations as are necessary to further or complete the North Carolina Coordinate System".

North Carolina was one of the first states to create a Geodetic Survey Division. The State's efforts have long occupied a position of national prominence, and the Division has been cited frequently for its accuracy and preciseness.

WORKS OF THE DIVISION

During the 1968-1970 biennium the Division established 1,447 horizontal stations, which is a 39% increase over the 1966-1968 biennium. This brings the number of stations established to a total of 4,531 since 1961. (See map).

The work of the Division consists of three main purposes:

(1) Establishing precisely located monuments through the State.

(2) Furnishing both preliminary data and published data with map to city engineers in each area. Updating the published data and map showing location of stations to the Register of Deeds in each county in which work was accomplished.

(3) Making the data available to engineers, surveyors, and other State and Federal agencies.

During the past biennium 18 projects were sent to the U. S. Coast and Geodetic Survey consisting of 1,400 stations. In the same period, 31 projects, consisting of 1,749 stations, were received published from the U. S. Coast and Geodetic Survey for a total of 3,063 stations published since the Division was created.

COOPERATIVE PROGRAMS

In December 1968, the U. S. Coast and Geodetic Survey estab-

lished 31 triangulation stations north of Raleigh to the Virginia line. In cooperation with its project, the Division densified control with 258 North Carolina Geodetic Survey traverse stations in this area covering ten counties.

In October 1968 and again in May 1969, assisting the U. S. Geological Survey in its topographic mapping program of the State, 97 stations were established in parts of Rockingham, Guilford and Alamance counties. This was in conjunction with the Mapping Program now in progress between the U. S. Geological Survey and the Mineral Resources Division of the Department of Conservation and Development.

Copies of all finished maps and data are furnished the U. S. Geological Survey in an efforg to assist and speed up work in the mapping program of the State.

MISCELLANEOUS ACTIVITIES

The Division put on an exhibit for the State Society for Surveyors held in Raleigh in February 1970. The Geodimeter and the Theodolite were demonstrated and maps and data made available.

The Director and the Chief of Field Parties attended the American Congress on Surveying and Mapping in Washington, D. C. in March 1970 in an effort to keep up with latest developments in surveying techniques.

In May 1970, representatives of the Division went to Winston-Salem to meet with surveyors in the area and discuss the importance of the use of the North Carolina Coordinate Sstem in their surveys and also made available the data published in their areas.

DIVISION OF MINERAL RESOURCES

PROGRAMS AND ACTIVITIES

The Division of Mineral Resources is the representative of the Department of Conservation and Development in the fields of geology, mineral resources, mining and the treatment of minerals. As specified by state law: "It shall make such examination, survey and mapping of the geology, mineralogy and topography of the State, including their industrial and economic utilization, as it may consider necessary."

The primary function of the Division is to acquire, assimulate and distribute basic scientific information relating to the state's geology, mineral resources and topography. Its role is to serve industry, agriculture and commerce; to provide consulting services to other state agencies; and to serve the individual taxpayer directly by answering his questions and informing him of our mineral resources.

The Division's activities and programs can be grouped into four categories: (1) services, (2) geologic research, (3) cooperative programs and (4) regulatory activities. A summary of the major activities in each of these categories follows:

SERVICES

Services constitute a major portion of the Division's activities and include identifying rock and mineral samples submitted by the citizens of the state, presenting programs on the state's geology and mineral resources to civic organizations and schools, distributing geological maps, reports and technical publications prepared by the Division and providing consulting services and specially prepared reports to other agencies that require geological information.

During the period covered by this report identification and evaluation of rock and mineral specimens submitted by landowners, prospectors and rockhounds continued at a high level. North Carolina has long been famous for its unusually large variety of rocks and minerals and the collecting of rock and mineral specimens as a hobby, or avocation, attracts many new enthusiasts each year. At the end of the biennium there were approximately 20 commercially operated mineral collecting localities open to the public on a daily fee basis.

At the request of landowners, staff geologists examine mineral occurrences and furnish the property owner an evaluation of the

potential for economic development. Investigations of this type are limited to cursory examinations and to advise the property owner as to whether or not further geologic investigations seem justified, and if so, the procedure he should follow.

Geologic and mineral resources information is becoming increasingly important in urban and regional planning and the Division of Mineral Resources is being called on more and more frequently to furnish data to planners and other state and federal agencies. The Division cooperates with numerous state and federal agencies in furnishing statistical data and geologic reports.

GEOLOGIC RESEARCH

Geologic research primarily is detailed geologic mapping and studies relating to the occurrence, distribution and utilization of mineral resources.

In cooperation with the North Carolina State University Minerals Research Laboratory in Asheville a project to locate and evaluate new resources of feldspar in North Carolina was continued. Over 120 feldspathic samples were collected by the Division's personnel and evaluated by the Minerals Research Laboratory. The samples were beneficated by grinding, scrubbing, flotation and magnetic separation; and the feldspar and quartz products assayed. Of these samples, about 20 appear sufficiently interesting to justify further research on certain specific areas of rock types. This project is being continued and future work will be directed toward (1) investigation of additional feldspathic deposits, (2) reappraisal of formations that have shown promise and (3) evaluation of fines from North Carolina granite quarries.

In cooperation with the North Carolina State University Minerals Research Laboratory, the initial phase of a project to evaluate mica schist as a substitute for scrap mica in the production of ground mica was completed. This investigation indicates that several mica schist deposits in the State have considerable future economic potential. The results of this investigation will be presented as a joint report to be published by the Minerals Research Laboratory.

The metallogenetic study of the Carolina Slate Belt was continued and at the close of the biennium former metal mines in 20 counties of the 24 county area had been located and described.

Geologic mapping in the Winstead 15-minute quadrangle was continued. This quadrangle is located in Person and Caswell counties and covers an area of approximately 240 square miles. At the close of the biennium, field mapping was about 90 percent complete.

During the preceeding biennium, the Division initiated a long-range program to systematically study the subsurface geology and economic geology of the Coastal Plain region of the State. During the period covered by this report significant progress was made in this program.

In June 1969, a project was initiated to evaluate the carbonate resources of the Coastal Plain region. The first phase of the project consisted of the drilling of 10 core and auger holes in Beaufort and Pitt counties. A Highway Commission drilling rig and crew was used on a contractual basis and a truck-mounted geophysical logging unit owned by the U. S. Geological Survey was utilized to run a gamma-ray log on each hole drilled. A total of 924 feet of drilling was accomplished during the first phase. It is planned to extend the project into Pitt and Craven counties as funds for drilling become available.

Of major significance to the Division's future research capability was the recommendation by the Board of Conservation and Development, and the subsequent approval by the Governor and Council of State, of the use of phosphate lease rent receipts for the construction of a laboratory and sample storage facility. Contracts for the construction of this facility were awarded in December 1968 and the building was occupied in August of 1969. In addition to providing laboratory space to process and study all types of geologic samples, these facilities provided, for the first time in the Division's history, adequate space to store and systematically catalog well samples and diamond drill cores. Also, the Division's large inventory of technical publications is housed in this facility.

Another major development in the Coastal Plain subsurface geologic investigations program was the authorization to acquire a truck-mounted geophysical logging unit. The equipment provides an essential tool in collecting qualitative data necessary to correctly interpret the complex sub-surface geology of North Carolina.

Continuing a policy established several years ago, the Division aided 20 graduate students at the University of North Carolina and North Carolina State University with research grants from the Special Projects fund. The grants ranged from $150.00 to $450.00 and were used by the students primarily for field expenses, rock thin sections and small items of equipment and supplies in connection with their thesis and dissertation problems.

Cooperative Programs

Cooperative programs were continued with the Geological Sur-

vey and Bureau of Mines, U. S. Department of the Interior. Matching fund programs with the Geological Survey consisted of a statewide topographic mapping program and geologic mapping and mineral resources studies in the Roxboro 15-minute quadrangle in Person and Granville counties. Field mapping in the Roxboro quadrangle has been completed and it is expected that the necessary office compilation and laboratory studies will be completed before the end of the next biennium.

The 1969 General Assembly appropriated $100,000 for each year of the 1969-1971 biennium to begin an accelerated topographic mapping program aimed at providing complete map coverage of the state on 7½-minute quadrangle topographic maps at the scale of one inch equals 2,000 feet. This is the first time the State has participated in the cooperative topographic mapping program to this extent and is considered to be one of the most significant developments in the Division's history. At the close of the biennium, 2,434 square miles of topographic mapping were included in the cooperative program.

Programs with the Bureau of Mines include the collection of mineral production statistics and a clay and shale testing program to locate and evaluate potential raw material for use in the ceramic industry. During the biennium, a total of 66 clay samples were tested from 27 counties in North Carolina. Fifty of these samples were collected from residual clays of the Carolina Slate Belt in 23 counties of the eastern Piedmont. Fourteen samples were selected from miscellaneous residual clays in four counties of the western Piedmont. Two samples came from sedimentary clays in the Coastal Plains portion of one county which extends into the Piedmont.

On July 1, 1968, the Division of Mineral Resources and the Geologic Branch, Tennessee Valley Authority, officially initiated a cooperative geologic mapping and mineral resources evaluation program for western North Carolina. Under the terms of the contract, the Division will collect, compile and make available geologic and mineral resources information in manuscript form on 7½-minute quadrangle base maps which will be submitted to TVA for cartographic drafting and publication. Each published geologic map will be accompanied by a pamphlet containing an accurate, concise description of the mineral resources in that quadrangle. The Division will be responsible for publishing the mineral resources summary. The Tennessee Valley Authority will reimburse the Division for 50 percent of the total cost of the program, up to a maximum of $15,000 a year.

This program is expected to be of considerable value in the future development of western North Carolina and will serve to greatly stimulate mapping in one of the most geologically complex regions in the country.

By utilizing university personnel, selected graduate students, and Division geologists stationed in Asheville, mapping had been completed, or was in progress, in nine 7½-minute quadrangles at the close of the biennium.

Regulatory Activities

Oil and Gas Conservation Act—The Oil and Gas Conservation Act of 1945 designates the Department of Conservation and Development as the state agency responsible for administering the provision of these statutes. Part I of the Act regulates the drilling and plugging of abandoned exploration wells.

During the biennium a total of 17 exploration wells were drilled by the following companies:

Coastal States Oil Company

Suggs No. 1, New Hanover County, completed August 8, 1969, total depth 1,195 feet.

J. H. Foy No. 1, New Hanover County, completed August 19, 1969, total depth 1,300 feet.

Skipper No. 1, Brunswick County, completed September 1, 1969, total depth 1,010 feet.

Jones No. 1, Duplin County, completed September 10, 1969, total depth 596 feet.

G. Meeks No. 1, Pender County, completed September 21, 1969, total depth 940 feet.

Thompson No. 1, Wilson County, completed October 1, 1969, total depth 258 feet.

Cowand No. 1, Bertie County, completed October 16, 1969, total depth 1,570 feet.

J. A. Parker No. 1, Onslow County, completed November 9, 1969, total depth 1,070 feet.

J. A. Parker No. 2, Onslow County, completed November 14, 1969, total depth 1,030 feet.

J. A. Parker No. 3, Onslow County, completed February 2, 1970, total depth 900 feet.

L. T. Foy No. 1, Onslow County, completed November 19, 1969, total depth 1,015 feet.

C. H. Foy No. 1, Onslow County, completed February 2, 1970, total depth 550 feet.

G. Sewell No. 1, Onslow County, completed March 10, 1970, total depth 700 feet.

Rapp Oil Company

Kellog No. 1, Currituck County, completed October 20, 1969, total depth 5,071 feet.

Etheridge No. 1, Dare County, completed November 16, 1969, total depth 6,052 feet.

Twiford No. 1, Dare County, completed December 8, 1969, total depth 6,024 feet.

Colonial Oil and Gas Company

Lee Parker No. 1, Onslow County, completed June 30, 1970, total depth 2,009 feet.

Mining Registration Act of 1969—Based on recommendations of the North Carolina Mining Council in a report to Governor Scott entitled, "A Proposed Program for the Regulation of Mining in North Carolina," the 1969 General Assembly enacted a bill entitled "The Mining Registration Act of 1969."

This bill provided for the establishment of the position of State Mining Engineer and specified that every mining operation in the State should obtain a registration certificate from the State Mining Engineer prior to March 31, 1970. In order to obtain the registration permit each operation was required to furnish maps and certain other specified information regarding the mining operation.

The 1969 mining registration act further specified that the North Carolina Mining Council shall develop, with the assistance of the State Mining Engineer, recommendations to the 1971 General Assembly for legislation under which mining operations in the State shall be regulated. Such recommended legislation shall include provisions (1) designating or creating a state agency to regulate the mining industry, (2) specify the legal responsibility for reclamation of mined-out land, and (3) create a system of licensing of mining operations sufficient to insure adequate conservation and land reclamation measures in connection with such operations, in addition to such other provisions as the Council shall deem necessary and appropriate.

The Division of Mineral Resources was designated as the state agency to administer the Mining Registration Act of 1969. J. Craig McKenzie was employed as State Mining Engineer in November 1969 and the mine registration was completed by the March 31, 1970, deadline. The initial registration revealed that 109 companies were operating 236 mines in North Carolina. The State Highway Commission registered 250 borrow pits used in the construction and maintenance of the highway system.

At the close of the biennium, the Mining Council had made considerable progress in developing its recommendations for presentation to the 1971 General Assembly.

Mineral Leases

On January 5, 1970, the five year option-to-lease agreement held by Texas Gulf Sulphur Company on 992 acres of state-owned submerged lands underlying Durham Creek, Beaufort County, expired. Prior to the expiration date, Texas Gulf Sulphur Company notified the Department of Conservation and Development that they were exercising the option to enter into a 25 year lease agreement on the area. The necessary lease document was prepared by the Department of Administration and subsequently executed by the Governor and Council of State.

FMC Corporation held a five year option-to-lease agreement on approximately 7,500 acres of state-owned submerged lands underlying the southern portion of the Pungo River. Shortly before the expiration date of March 24, 1970, officials of FMC Corporation notified the Department of Conservation and Development that after careful consideration it had been decided not to exercise their option-to-lease the area.

During the five year period that FMC Corporation held the option-to-lease, they conducted an extensive exploration program and expended substantial funds on research and development of a method by which phosphate ore could be hydraulically mined through a system of wells.

No specific information was provided for the reasons FMC Corporation chose not to exercise their option.

Mobil Oil Corporation, which acquired the lease in 1964 that covers the state-owned submerged lands that lie between Carteret County and the Virginia state line, requested this lease be reassigned to Coastal Plains Oil Company. The reassignment to Coastal Plains Oil Company was approved by the Governor and Council of State on August 20, 1969.

North Carolina Oil and Gas Company requested the lease they held on state-owned submerged lands that lie between Carteret County and the South Carolina state line be assigned to Colonial Oil and Gas Company of Rochester, New York. The assignment was approved by the Governor and Council of State on September 30, 1969.

Mineral Production

During each year of the biennium, mineral production contin-

ued a significant upward trend and established record high values. Since 1962 mineral production has established a new record high production each year. In 1968, mineral production was valued at $82.8 million and in 1969 at $90.5 million. This represents a 16.4 percent increase over the preceeding biennium and strongly reflects the increasing importance of the mineral industry to the state's overall economic development.

The principal mineral commodities mined in order of decreasing value were stone, sand and gravel, phosphate rock, feldspar, lithium minerals, clays, mica, and talc and pyrophyllite. Leading mineral producers were Superior Stone Company, Ideal Cement Company, Vulcan Materials Company, and Texas Gulf Sulphur Company. Stone continued as the dominate mineral commodity, accounting for about 52 percent of the total mineral production for each year of the biennium.

North Carolina ranked first among the states in the production of feldspar, mica and lithium mineral, and second in olivine. It also continued as the leading brick manufacture in the country, accounting for about 13 percent of the national total.

TABLE 1.—MINERAL PRODUCTION IN NORTH CAROLINA[1]

Mineral	1968 Quantity	1968 Value (thousands)	1969 Quantity	1969 Value (thousands)
Clays[2] ..... thousand short tons	3,310	$ 2,148	3,342	$ 2,610
Feldspar ..... long tons	316,862	4,340	W	W
Gem stones	NA	20	NA	20
Mica:				
Scrap ..... short tons	69,054	1,640	67,214	1,513
Sheet ..... pounds	15,000	W	W	3
Sand and gravel ..... thousand short tons	10,771	11,178	10,562	11,437
Stone ..... do	24,543	42,429	26,812	47,829
Talc and pyrophyllite ..... short tons	100,030	520	105,728	586
Value of items that cannot be disclosed: Asbestos, barite (1968), cement, clays (kaolin), iron ore (1969), lithium minerals, olivine, phosphate rock, and values indicated by symbol W	XX	20,544	XX	26,459
Total[3]	XX	82,819	XX	90,455
Total 1967 constant dollars	XX	82,237	XX	p88,327

p Preliminary.
W Withheld to avoid disclosing individual company confidential data.
XX Not applicable.
1 Production as measured by mine shipments, sales, or marketable production (including consumption by producers).
2 Excludes kaolin; included with "Value of items that cannot be disclosed."
3 Data may not add to totals shown because of independent rounding.

STATE PARKS

"In 1908, President Theodore Roosevelt, an ardent supporter of conservation of natural resources, called a meeting of the governors of several states to discuss the whole conservation problem, a subject most congenial to him. By executive order he withdrew large areas of land from sale for the purpose of investigating their natural resources. He also recommended that Congress pass legislation protecting the interests of the general public in such minerals, water powers, and forests as should be found in them" (Carl Russel Fish, Historian and Professor, University of Wisconsin).

Although the conservation of natural resources has been a subject of prime importance for more than half a century, interest in state parks was slow to evolve. In 1921, North Carolina was one of only 19 states to have a state park, Mount Mitchell Park having been established in 1915.

A significant period of growth in state park conservation took place when the National Park Service cooperated with the Civilian Conservation Corps, March, 1933 - July, 1942, to aid in the protection, conservation and development of government-owned land. Today state parks are a "must." Technological advantages and high standards of living, producing more leisure time, have created a social problem. Proper use of leisure time can become a tremendous asset. Misuse of it can become a liability. The State must assume the responsibility to see to it that future generations will not be denied their right to use and enjoy a portion of our unscarred landscape, wildlife and other important phases of protected areas.

The primary purpose of the State Parks is "TO SERVE PEOPLE", a service that can be accomplished by:

1. The preservation and protection of natural resources of unique, scenic value. These resources must not only be preserved, but improved, and the quality must be renewed. North Carolina has the greatest diversity of natural plant communities of any Eastern State.

2. Providing recreational use for natural resources, and outdoor recreational surroundings. The State's abundance of land and great regions of fresh and salt water areas afford opportunities for recreation that make use of all natural resources.

3. Portraying and interpreting plant and animal life, geology and all other natural features and processes included in the various state parks and natural areas. The educational values of these programs have been proven by the colleges and public school groups that have attended these programs.
4. Preserving, protecting and portraying scientific sites of statewide importance. North Carolina has received a portion of a great heritage in the natural areas where recreation, relaxation, spiritual, and aesthetic values may be found. The outstanding program of the Division of State Parks is one whereby human resources are conserved through an active program of conserving natural resources, thus, providing lasting benefits.

OPERATION FOR PUBLIC USE

For the first time in the history of the North Carolina State Parks, the attendance during a biennium approached five million. Actual attendance was 4,973,954, an increase of 13.8 percent over the last two-year period. Most of the activities in the various parks also showed substantial increases over the previous biennium. Picnicking was up 16.6%, swimming 24.3%, cabin days 10.4%, camper day groups 8.4% and hikers 50.1%.

Many maintenance and construction projects have been completed, with the effect of creating a much more modern and efficient operation capacity. This has also increased the quality of operation and has enhanced the natural scenic beauty of the parks.

The Division strives to be of better service to the visiting public through various ways. Refreshment stands are operated for the convenience of the public. Camp sites were filled for 10 weeks during the summer in some of the parks. Many requests were turned down for cabin reservations, as all had been reserved.

Increased public use of the parks shows a continuing need for more parks and park facilities, and these must be provided within a short space of time.

MAINTENANCE

Careful maintenance to protect the public's interest in the state parks system is an important part of State Park work. Maintenance is a continuous problem and must be carefully planned. Public use demands that park facilities be safe and in usable condition for the enjoyment of visitors and for protection of their health and safety. This work requires a variety of skills, including those of masons, carpenters, electricians, and plumbers.

During the biennium, installation of water lines, painting, grading and sign work were carried on. Many buildings were repaired, and beach erosion control work done. Considerable time was spent working on jetties, building fences and planting grass. Metal work in the observation tower at Mount Mitchell was sandblasted and painted for protection and to improve the appearance. Some old refreshment stands were remodeled, cabinets built and installed, hiking and nature trails repaired and extended. A heavy duty cable was installed to carry electric power from the mainland to Hammocks Beach and eliminate the diesel powered generating system previously used for the island.

INTERPRETIVE AND PUBLIC USE

Since the employment of a full-time Chief Park Naturalist on November 1, 1957, the quality of nature study and similar programs has shown marked improvement. Nature study and other interpretive programs portray and explain the natural features and natural processes of the State Parks program. These programs are recreational, inspirational, and educational, and are among the most lasting and beneficial of the public services offered by the parks. They should be given increasing emphasis, for the perpetuation of the park system will find its greatest asset in them. Many high schools, colleges, and universities send their students, in ever-increasing numbers, to participate in the nature hikes, illustrated lectures, swimming classes and varied scientific studies. Future generations will reap the benefits of the knowledge gained by these students. Among the more popular of the aspects of the interpretive programs are the illustrated lectures. Lecture themes include plant and animal life, geology, geography, scenic and historical aspects of the park, and conservation. Trails also command the interest of park visitors. Nearly 30,000 hikers used the trails in one park during 1970.

PROTECTION AND LAW ENFORCEMENT

Orderly operation of park facilities is an absolute necessity and an ever-increasing responsibility. Law enforcement agencies have on occasion assisted park personnel in maintaining order.

Although thefts and destruction of property have shown an increase over previous years, a great deal of credit is due park personnel for the manner in which they have coped with these problems. Fire is one constant threat to the parks. Three small fires were started at the Cliffs of the Neuse, but were extinguished by park personnel and park visitors before any major damage was

done. A similar instance occurred at the William B. Umstead State Park with little damage experienced. The U. S. Coast Guard started a fire at Fort Macon that burned one acre.

The Southern Pine Beetle and the Balsam Wooly Aphid are annual pests. During the biennium, outbreaks of the beetle occurred at Cliffs of the Neuse, Duke Power, Hanging Rock and William B. Umstead State Parks. In August, 1969, more than 250 trees were cut and sprayed at Hanging Rock, and about 500 more need to be cut. Concerted efforts of spraying and removing infested trees have been very beneficial in aiding the control of these pests.

BUSINESS MANAGEMENT

Prompt and efficient execution of business activities governs the success of the program. While a great variety of details go into the job of business management, its purpose is to get the most for each dollar spent.

INFORMATION AND EDUCATION

Knowledge of nature is gained by association. Recognizing this, the Raleigh Office, and field personnel continue to broaden this phase of State Park activities. Educational opportunities are almost unlimited, and requests for information on the parks are continually on the increase.

During the biennium, the booklet, "North Carolina State Parks" was revised and 24,000 copies printed and distributed to the various parks, with a supply reserved for the State office. Demand for brief histories of various parks, such as "A Guide to A Brief History of Fort Macon," "A Brief History of Mount Mitchell State Park," and other similar brochures, exceed the supply. Trail maps have been updated and others are in the making.

Newspapers, radio, television and magazines continue to give excellent coverage of park activities. Feature articles are occasionally carried in newspapers having state-wide circulation.

An increasing number of students visit the parks for nature study activities including lectures, color slides, park trails, and a study of plant and animal life by the sea. The ocean currents and the movements of the sand dunes draw unusual scholastic interest. In February, 1970, a weekly Television Program, under the supervision of the Chief Park Naturalist, was introduced.

PERSONNEL ADMINISTRATION

The administrative competence displayed by the resident park

staff is reflected in the general appearance of the various state parks, and the high quality of service to the park visitors. In order to maintain such competence, staff members must have a dedication that stems from pride in the organization, themselves, and the particular work they are doing. They must be well informed in all aspects of park work. Selection of the more than 100 seasonal employees has become a tremendous task. Since they are in daily contact with the public, and the only contact for many visitors with official representatives of the State, they must be well chosen and well trained.

In order to keep abreast of the times and to increase efficiency, the Park Superintendents have annual meetings with top-level State personnel. Training sessions are held within individual parks. Efficient training, and promotions are big factors in maintaining competent employees.

R. Gage Smith joined the staff of State Parks, September 1, 1969, as Chief Park Statistician. His work includes compiling, writing, reviewing and summarizing various reports. He prepares applications for Federal aid and reports in connection with the Land and Water Conservation Fund administered by the Bureau of Outdoor Recreation of the United States Department of the Interior. He answers questions about available park facilities and updates national travel and camping guides listing State Park facilities.

On August 31, 1969, Conley L. Moffett, Chief Park Naturalist for more than nine years, resigned to accept a position with the Bureau of Sports Fisheries and Wildlife, Fish and Wildlife Service, U. S. Department of the Interior, Atlanta, Georgia.

Moffett was succeeded by Bryan J. Taylor on September 1, 1969. Taylor was formerly with the Rockingham County Schools. In addition to other duties, Taylor is in charge of a weekly television program on WGHP-TV, Channel 8, High Point, North Carolina. The show has been a major asset in the Information and Educational phase of the State Park Program.

A giant step was taken in park operations in June, 1970, when William A. Webster was employed as the first Park Administrative Officer to coordinate operations in all parks. Webster had worked with the Division as a seasonal employee for many years.

At Hanging Rock, seven members of the Youth Corps were employed this summer. Also employed were two PACE students who worked forty hours per week for twelve weeks, at a cost of about $150.00 per student.

STATE LAKES

The administration of seven State-owned lakes, with which the Division of State Parks is charged, is primarily a job of protection. These lakes are Black, Jones, Salters, Singletary and White, in Bladen County; Lake Waccamaw in Columbus County and Lake Phelps in Washington and Tyrrell Counties.

In 1959, North Carolina's Boating Safety Law was enacted and the responsibility for its administration and enforcement was delegated to the Wildlife Resources Commission. Jones, Salters and Singletary Lakes in Bladen County are within State Park boundaries and are administered under State Park rules, regulations and policies.

On December 6, 1969, State Lakes Regulations were revised, deleting all reference to boats, boating and law enforcement regarding boating regulations, as this phase has been delegated to other State agencies.

The State owns no land around Black Lake in Bladen County or Lake Waccamaw in Columbus County. At White Lake a small parcel of land provides a base for operations from which the Division of State Parks places and maintains safety pilings to protect swimming areas.

In 1966 a development company made a request to drain Black Lake for the purpose of removing the debris which had accumulated. Permission was granted to allow the project to commence under the supervision of State Parks, provided the plans for development of the area would include provisions for public access for recreational use, and that the water level be restored and constantly maintained at the normal high water mark subject only to natural causes. After four years this task has not been completed.

PLANNING, DEVELOPMENT AND CONSTRUCTION

Detailed studies and inventories are necessary before facility development can be accomplished. Plans for the future include further development of interpretive centers, repairing and extending hiking trails, installation of equipment, more campsites, erosion and pest control, better drainage systems, land acquisition and other plans for more and better park use for more people. These have been major items in the planning and development phase of park work for the past biennium.

At the suggestion of the Department of Conservation and Development, the 1967 General Assembly created the State Parks

and State Forest Study Commission. This Commission was to evaluate the existing State Park system and make recommendations to the next legislature on future expansion for adequate State outdoor recreational opportunities.

On January 29, 1969, the Commission presented its findings and recommendations to the General Assembly. The report stated in part, "In examining outdoor recreation in North Carolina and assessing the desires and needs of the populace, it became glaringly obvious that a bold and new concept in development of State Parks would be necessary to meet these needs." It further stated that, "the State must undertake now a broad and realistic program for acquiring new parks and expanding existing parks." The Commission called on the General Assembly and the entire citizenry for courageous and imaginative leadership.

RECOMMENDED PROGRAM

Specific Objectives:

The State Parks and State Forests Study Commission recommends a program with specific objectives to:

* Enlarge the State Park System to accommodate an additional 2.1 million visitors per year.
* Place additional State Parks so that most of North Carolina's population will have one-hour access to a State Park.
* Improve and increase facilities in existing parks.
* Provide an equitable location of areas across the State that is consistent with area functions and classifications.
* Encourage advanced planning and land acquisition in areas of major water improvement.
* Give the Division of State Parks expanded staff to administer the program of site planning and development.
* Insure access to public waters.

Land Acquisition Program:

The State Parks and State Forests Study Commission estimates that State Park usage will at least double by 1980. Considering North Carolina's liberal endowment of Federal recreation areas in the form of National Parks, National Seashores, and National Forests, the Commission believes a desirable target standard is 20 acres of State Park land per 1,000 of population. To meet this

standard by 1980, an additional 58,675 acres of land should be acquired by the State Park System within the period 1969-1980, increasing the total to approximately 112,000 acres (including the present 29,000 acres of State Lakes).

Types of Land:

The Commission recommends acquiring the most scenic and distinctive natural areas available, consistent with objectives of location and priority.

In view of public demand for water-oriented outdoor recreation activities, such as swimming, and boating, the Commission recommends emphasis upon acquiring sites capable of supporting them.

The importance of prompt site evaluation and acquisition cannot be overemphasized. Development is important, but the acquisition of fast-disappearing resources must have top priority.

Location:

The bulk of state park use throughout the Nation and in North Carolina involves outings on single days rather than over a weekend or while on a vacation. To meet this degree of day-use demand, parks should be located within convenient reach of the population, within approximately 50 miles or one hour of driving time. As a first location objective, it is proposed to create a State Park System having parks within a one-hour drive of most of the State's population.

Development:

The Commission recommends:

* Addition of 15 or more new areas to the State Park System.

* Development of each area promptly after acquisition making the simpler and more popular outdoor recreation activities available as soon as possible, even though provision of a full range of activities may be delayed.

* Giving priority to new sites according to the rankings established in this plan.

* Acquisition of sites providing opportunities for popular, water-based recreation activities.

Finances:

The program recommended by the Commission involves expenditures of approximately $40 million for land acquisition and development. Based on recent experience, land bought for this

program can be expected to cost an average of $500 per acre, a total of about $29,337,500 for the recommended 58,675 acres. Development, including roads, picnic grounds, camping, facilities for other recreation activities and necessary parking, maintenance and ranger residences is estimated to cost $10,400,000.

The Commission recommends that consideration should be given to using a bond issue to raise funds for getting an early start on this program of land acquisition and development and completing it by 1980. Between 1969 and 1980 general development costs can be expected to rise by three percent a year and land prices by as much as six or seven percent a year. Such price rises will increase the total cost of the program and could raise costs by as much as two-thirds, if all expenditures were deferred until 1979.

Objectives:

To shape the future, it is first necessary to specify the objectives that are desired. Recreation objectives for State Parks and State Forests were sought by reviewing pertinent legislation and administrative documents. The results of this search are summarized below:

Outdoor Recreation Opportunities:

It is the objective of the State to provide access for its citizens and visitors to publicly-owned (non-urban) natural areas of land and water for their use and enjoyment through various forms of outdoor recreation. Such areas shall be different from, and in addition to, those which are or should be provided by Federal, county and local governments, and by the private sector.

Preservation:

In order that present and future generations may use and enjoy the natural outdoor features with which North Carolina is so liberally endowed, it is the State's objective to acquire adequate examples of such features to preserve them in as close to a natural state as is feasible, and to make them accessible to users for the purpose of outdoor recreation. In particular, such areas should represent the unique or distinctive plant or animal communities found in the State, as well as other natural and scenic features.

Access to Public Waters:

In order that citizens and visitors alike may be able to reach and use inland waters and the Atlantic Ocean, it is the objective of the State that areas of public access be provided along the shores of streams, rivers, lakes, estuaries, sounds, and the ocean. Such areas may be in the form of, or in addition to, State Parks.

Balance in Types of Areas:

The State will make its natural resources available to the public in a variety of ways, in order that differing tastes for outdoor recreation may be satisfied as fully as possible.

Equitable Location of Areas:

State areas for outdoor recreation should be located to complement existing or planned recreation areas in National Parks, National Forests, Parkways, and seashores. The several State areas shall be distributed geographically to provide opportunities for all citizens throughout the State.

The commission proposes these general objectives as reinforcements and extensions of past policy, not as departures from it. The objectives are intended as a source of guidance in future planning.

Growth of the System:

During the period of 1915-1946, the State spent $57,854 for the acquisition of land, and $47,655 for the development of its parks.

Historically, 84 percent of the land (other than natural lakes) for State Parks has been acquired through gifts from private citizens or transfers of publicly owned land. As of October 1968, gifts to the system totalled 19,651 acres as compared to purchases with State funds totalling 3,729 acres.

Need for Additional Land:

The Commission recommends adoption of the land standard of 20 acres per 1,000 of population, and the acquisition of an additional 58,675 acres for the State Park System by 1980.

Following the suggestions outlined in this report, the State Parks Committee in December, 1969, recommended, and the full Conservation and Development Board approved, a program with an estimated cost of slightly more than $33,000,000.00 within a six-year period to start July 1, 1971. The first phase of this program will be presented to the Advisory Budget Commission for preliminary review and screening prior to the 1971 session of the Legislature. In the 1971-73 biennium, recommendations are: $12,000,000.00 land acquisition for new parks; $1,500,000.00 development work in new parks; $1,040,000.00 land acquisition to existing parks, and $2,596,300.00 development work in existing parks.

In March 1970, Richard Bell & Associates in collaboration with Thomas W. Morse, Consulting Landscape Architect and the first Superintendent of North Carolina State Parks, were employed to prepare master plans for Pilot Mountain State Park and Stone Mountain State Park. These will be long range plans for the

preservation, use, development, interpretation and administration of these two parks, and will establish guidelines on which to base the preparation of more detailed plans.

The completed master plans will be a combination of narrative and graphics and will include the following: Statement of purpose, management, objectives, general (or background) information, location and brief description of the State Park and a brief resume of the events in the establishment of the park and regional characteristics.

LAND ACQUISITIONS

Four new state parks were added to the park system during the biennium, more than in any previous two-year period in the history of State Parks.

Pilot Mountain property became a State Park on July 24, 1968. The exact minute when the first deed was signed conveying the property to the State, Thomas C. Ellis, State Superintendent of State Parks, made a telephone call from the Surry County Courthouse to the admission gate of the park and banished the one dollar per person fee which had been charged for admission.

Stone Mountain, the second State Park acquired during the period, was received by deed, dated February 7, 1969, from the North Carolina Granite Corporation of Mount Airy. An outright gift of 418.49 acres, valued at $400,000, plus 1,045.16 acres purchased by the State for $175,000 became the basis for this park. Nine other tracts were acquired by the Stone Mountain Park and Preservation Commission, Inc., and turned over to the State.

On May 13, 1969, Masonboro State Park, (Snow's Cut), was received into the Park System, and now has an acreage of 300.75. The General Assembly appropriated $125,000 for the initial phase of development.

The latest addition to the State Parks system is Raven Rock State Park, in Harnett County, which was established February 6, 1970. The 1969 Legislature appropriated $120,000 to start acquisition of land for this purpose. The Governor and Council of State approved the expenditure of $62,532 in State funds out of this appropriation to acquire 221.7 acres from J. C. Cummings that formed the first segment. The land was purchased and the deed was submitted to Governor Robert W. Scott on March 23, 1970, during a ceremony in Raleigh. By June, 1970, approximately 156 acres had been added to the park.

Morrow Mountain and Hanging Rock State Parks were recipicients of additional land. On August 28, 1968, Morrow Mountain

acquired 293.4493 acres from the Biles tract, and three separate tracts totalling 479.183 acres were added to the Hanging Rock State Park. The first tract, 225 acres, was purchased from the Moore Estate on December 9, 1968.

The second tract, from the Taylor Estate, of 253.046 acres was purchased on December 18, 1968.

The third tract of 1,183 acres was acquired from the Taylor Estate on October 12, 1969.

THE GOAL

The goal is to establish, develop and operate a system of State Parks which will preserve and protect permanently the most important scenic, and scientific sites in the state; adoption of the land standard of 20 acres per 1,000 population and the acquisition by 1980 of an additional acreage comparable to the present acreage; portray and explain the natural and scientific features of the state parks; establish additional state parks at locations within one hour's drive of most of the state's population.

The State Parks have a special role as suppliers of day and weekend recreation. They must be assured of sufficient land for growth to achieve this objective. Funds must be provided for building public use facilities, for acquisition of land for more state parks, provide Capital improvements for development of existing state parks, and provide funds for maintenance of the parks now in public use.

There must be sufficient numbers of technical personnel required for sound planning and economic development of the State Park System. This planning must be, of necessity, on a long range basis. Development should be made according to master plans for each park. Technical personnel are vital to the orderly development of present areas while additional areas are vital to the fulfillment of the State Parks Program.

The policy of acquisition of land for State Parks to include scenic and recreational areas has been advocated, and will continue to be approved.

TRAVEL AND PROMOTION DIVISION

Travel spending and development in North Carolina continued to grow at a significant rate during the biennium. The State made bold, new achievements in publicity with an increasing amount of exposure in national magazines, newspapers and television. A new travel movie was produced and released.

Annual spending by travelers increased to $752 million during the calendar year 1969 when a record 38 million people traveled in the state. This made North Carolina the second most visited Southern state. The Tar Heel travel industry's annual growth rate of nine percent continued to be an important factor in the overall healthy nature of the North Carolina economy.

With the steady increase of the State's travel business, the demand for Division services also grew. During the biennium, the Division processed 265,714 travel inquiries and distributed 1,974,042 pieces of travel and promotional literature. In addition, the Division produced 1,580,000 copies of its own publications, answered 2,841 inquiries from persons interested in moving to North Carolina, produced and distributed 215 news releases and 10,616 photographs.

A new movie, entitled "NORTH CAROLINA: The Goodliest Land," was released in June of 1970. The 28-minute, award-winning, color film which features the State's travel resources, is expected to be viewed by audiences exceeding five million persons annually. It is distributed worldwide by United States Travel Service, Modern Talking Pictures, Inc. of New York and in-state by the Bureau of Audio Visuals at the University of North Carolina at Chapel Hill.

The film was written, edited and produced by North Carolina talent. It is a moving story about the rich history and traditions of a State which has grown into one of the nation's top travel destinations. The film depicts thoroughly, but concisely, the state's Coastal, Piedmont and Mountain regions.

It will be shown to school groups, civic clubs and theater audiences all over the world.

During the biennium, a new Travel and Promotion Committee of the Board of Conservation and Development was appointed. The committee included: Charles W. Bradshaw, Raleigh, Chairman; T. Victor Aldridge, Sr., Raleigh; Charles P. Brown, Albemarle; J. O. Buchanan, Asheville; and Albert C. Martin, Kinston.

PUBLICITY

As a result of the Division's broadening efforts to promote North Carolina, the state received an increasing amount of attention from national news media. During the winter of 1968, the American Broadcasting Company filmed a 30-minute sequence of its American Sportsman program with Bing Crosby and Gaylord Perry at Pinehurst. The program was shown in March of 1969. Also in 1969, the State received evening network coverage on a number of events including the National Hollerin' Contest at Spivey's Corner, the Fiddler's Convention at Union Grove and skiing in the mountains in Western North Carolina. In 1970, a feature on gem hunting in North Carolina and coverage of the automobile stock car races was aired on network television.

Publicity of North Carolina places and events continued to be excellent in national and regional print media. Among the outstanding publications which featured North Carolina articles were: *National Geographic, The New York Times, The New York Post, The Washington Post, Better Homes and Gardens, Field and Stream, Outdoor Life, Sports Afield, Sports Illustrated, Ford Times, Southern Living, Golf World* and countless others.

In addition to the media initiated articles, the division stepped up its own efforts with a regular travel series featuring staff written articles on little known and out-of-the-way attractions in North Carolina. The unique series has been well received.

During the biennium, the outdoor editor hosted numerous writers, individually and in groups. The results of this program have continued to grow dramatically. Among the many published stories about North Carolina hunting and fishing were five features in national outdoor magazines. North Carolina has received more outdoor features in these national media than any other state or Canadian Province during the first half of calendar 1970.

Outdoor Editor Joel Arrington was the winner of the Governor's Award Trophy for Conservation Communication in 1969.

A new program about the State's attractions has been widely accepted by North Carolina radio and television media. The program consists of a weekly, five-minute radio interview on a timely phase of the state's travel industry. Tapes of each interview are sent free to the participating stations.

As a part of its efforts to follow the ever growing travel market, the Division continued to cooperate closely with the United States Travel Service, the National Park Service and the Discover America Travel Organization.

Division Director Bill F. Hensley was honored in January of 1970 when he was elected the first chairman of the nation-wide Council of State Travel Directors. This organization, composed of the official travel directors of the 50 states, was organized to exchange information and promotional ideas in order to better promote the United States. Hensley served throughout 1970. He was twice chairman of the 11-state Southern Travel Directors Council, of which North Carolina is a charter member.

Hensley received an additional high honor in June of 1970 when he was selected as a member of the United States' World Tourism Seminar Team. United States Travel Service Director C. Langhorne Washburn called the team "the most powerful tourism panel ever picked." In addition to Hensley, who represented the 50 states, panel members included the top travel leaders in the nation. The team was sent to various foreign lands to promote the USA.

The Division continued its efforts in a number of fields to improve the State and make it a more desirable travel destination. Included were the promotion of the establishment of package tours, conserving our natural resources, adequate zoning laws, convention centers, more "off-season" travel activities, better roads and airports, more money for advertising and promotional programs, better food and accommodations throughout the state, and more interest by the travel industry itself in bettering the industry as a whole.

PUBLICATIONS

Publications promoting the State's travel resources were revised and several new publications created during the period.

A series of five new travel posters featuring scenes of the grandeur of the Coast, Piedmont and Mountains was produced. A new brochure, entitled "Sheltering A Heritage," which depicts the famous homes and buildings of historical North Carolina was published.

A color-illustrated booklet, "Hunting and Fishing In North Carolina," which provides the state's sportsmen with an abundance of information about Tar Heel hunting and fishing opportunities was compiled and published by the Division staff.

A new brochure promoting snow skiing, one of the State's youngest but most vigorous and fastest growing outdoor sports, was created. Also, a new brochure featuring camping opportunities in the state was produced. A full-color brochure illustrating the beautiful North Carolina "Flowers and Gardens" was produced.

The Division's existing publications, including the award-winning booklet, "NORTH CAROLINA: The Goodliest Land," "North Carolina, Golf State, USA," were revised and updated during this period.

SPECIAL PROJECTS

One of the most characteristic aspects of the Division is the diverse and flexible methods used to promote travel in North Carolina. This is especially evident from the variety of special projects in which the Division participates, ranging from travel missions to other continents to specialized tours of remote parts of the state.

In the fall of 1968 the Division participated in a Travel Mission to South America. The Mission, led by Governor Dan K. Moore, included stops in Venezuela, Brazil, Argentina, Chile and Peru. Sixty-eight North Carolinians participated in the two-week long event designed to stimulate interest in North Carolina among South Americans. At each stop, reception-seminars for airline personnel, travel agents and the press were held. The programs included a talk by Governor Moore and Division Director Bill F. Hensley and a 20-minute slide show of the Tar Heel travel attractions. In addition, the state's promotional literature was distributed.

Also, in the fall of 1968, a new travel exhibit featuring four, large, full-color scenes of the state's top attractions were designed and completed. The exhibit has been used in travel shows in Toronto, Ontario; New Orleans, Columbus, Atlanta and St. Petersburg in which the Division participates annually.

In the spring of 1969 the Division, in cooperation with the North Carolina Travel Council, participated in a week-long Travel Mission to the Ohio River Valley with stops in Ohio, Pennsylvania and Indiana.

During the biennium two tours of golf writers and one tour of travel writers from the country's leading publications were conducted to North Carolina points of interest. In the spring of 1969 a week-long tour of golf writers was conducted in the Piedmont of North Carolina. During the fall, a similar outing for golf writers was sponsored to the western part of the State. In September of 1969, a week-long tour for travel writers was conducted of the entire State. Publicity resulting from these tours in some of the country's top publications was excellent.

Each year the Division participates in a number of special

projects which are continued on a year-to-year basis. For example, in cooperation with the North Carolina Travel Council, the Division publishes the North Carolina Travel Survey annually which is the most authoritative economic analysis of the State's travel industry.

In November of 1969 the Division, in cooperation with the United States Travel Service and Asheville Chamber of Commerce, sponsored a visit by a group of London Travel Agents for a two-day visit to the western part of North Carolina.

In June of 1970 the Division participated, along with other member states of the Southern Travel Directors Council, in the "Travel South" display at "Man and His World—Visit USA" exhibition in Montreal, Canada. In addition, the Division has participated in numerous projects in connection with its membership in STDC and Discover America Travel Organization toward the goal of stimulating greater travel interest in North Carolina, the South and the entire nation.

A regular, semi-annual project of the Division is co-sponsorship of the Honorary Tar Heels, a group of distinguished out-of-state journalists whose efforts have benefited the State of North Carolina. Meetings of this group are sponsored on the coast in the spring and in the mountains during the fall by the Division and local hosts.

WELCOME CENTERS

The operational phase of the North Carolina Welcome Center program began during the biennium with the opening of the State's first two Welcome Centers in August of 1968. They are located on Interstates 85 and 95, both near the Virginia line.

During their first two years of operation, a total of 841,510 persons have been assisted with their travels into the Tar Heel State at the two Welcome Centers.

Each center consists of a large reception room, small office and kitchen, storage rooms and rest room facilities. The carpeted reception room contains color transparencies of various North Carolina attractions; brochure racks for displaying literature; an attractive pottery display, a shell collection from the coastal area and a bulletin board listing current events throughout the state. The centers were built at a cost of $85,000 each.

The centers are open daily, except for christmas Day, to offer assistance to the state's visitors from 8 a.m. until 5 p.m. except during the summer months when they remain open until 8 p.m.

Five fulltime employees, including a manager, three hostesses and a building and grounds custodian, are on duty at each center.

The 1969 General Assembly appropriated $204,000 for two additional Welcome Centers. Construction of the first, on Interstate 40, near the Tennessee line, began in May of 1970 and was due for completion in early October. It is of contemporary design to blend in with the rugged mountain terrain.

A fourth center is scheduled for construction on Interstate 85 near the South Carolina line.

The state's promotional literature, weather information, route planning and individual assistance, are available at each center for the state's motoring public.

Cooperative efforts with the Highway Commission and North Carolina Forest Service have made the centers very attractive and convenient stops. The Highway Commission furnishes land, paving, parking facilities, water and restroom facilities, picnicking areas and litter cans. The Forestry Division designed and established nature trails at both centers. A variety of North Carolina seedlings was planted and labeled with their common and scientific names.

North Carolina's Welcome Centers play a vital role in the State's overall promotion efforts. The Welcome Center program was established to stimulate more stay-over visits in North Carolina by motorists who might otherwise have passed through to other destinations. Prior to the creation of this program, a national travel survey revealed that North Carolina was receiving more than its share of travelers but less than its share of the travel dollars. This indicated a number of the people who came into the state did not stay for any length of time.

It is too early to measure the full impact of the state's Welcome Center program. However, if the response from a number of the state's areas can be a reliable gauge, then the program has gotten off to a very successful start. A number of Chambers of Commerce around the state, as well as individual attractions, have said that the Welcome Centers were a direct factor in increased travel business.

ADVERTISING

The 1969 General Assembly increased the Division's advertising budget by $50,000 to $575,000. Approximately 70 percent of this is used for travel advertising and 30 percent is spent for industrial development advertising.

On July 1, 1969, the Charles Crone Associates of Raleigh was awarded the state advertising contract, succeeding the J. T. Howard Agency, also of Raleigh.

North Carolina attempts to promote the things it has which other states do not have. Among these are Old Salem, Tryon Palace, and many other attractions. In addition, the state seeks to capitalize upon its rich traditions, well-developed crafts and arts and industrial potential as a means of creating more interest in the Tar Heel State.

North Carolina's travel and industrial advertising was published in the following media:

NEWSPAPERS

National Observer
Wall Street Journal
New York Times
Washington News Tabloid
Washington Post
Philadelphia Bulletin
Pittsburgh Press
Cleveland Press
Cincinnati Enquirer
Chicago Tribune
Journal of Commerce
Baltimore Sun
Cincinnati Post
Knoxville Sentinel/News
Richmond News Leader/Times Dispatch
Atlanta Journal and Constitution
Florida Times/Union Journal
Philadelphia Inquirer
Tampa Tribune
Miami Herald
Birmingham News/Post Herald
Washington Star
Columbia State Record
Toronto Glove and Mail
Toronto Star
Toronto Telegram
Toronto Financial Post
Montreal Gazette
Montreal Star
Detroit News
Cleveland Plain Dealer
St. Petersburg Times

MAGAZINES

Better Homes & Gardens
Esquire
Holiday
National Geographic
New Yorker
Reader's Digest
Southern Living
Budget Travel
Camping Journal
Eastern Skiing
Financial Post
Flower & Garden
Golf Magazine
Golf Canada
Golf Digest
Golf World
Home Garden
Outdoor Life
Saltwater Sportsman
Saturday Review
Southern Outdoors
Ski Magazine
Sports Afield
Sportfishing
Time
Travel
TV Guide
True Fishing Annual
Modern Manufacturers
Nation's Business

Outdoor Life
Field and Stream
Salt Water Sportsman
Area Development
U. S. News & World Report
Newsweek
American Industrial Properties Report
Business Management
Atlanta Ski Club
Waterway Guide
Washingtonian
House and Garden
Atlanta Magazine
Fortune
Plant Location
Rotarian
Southern Living
Home Garden
Holiday
Sports & Travel
Harpers
Rod and Gun
Venture
House Beautiful
Investment Dealers Digest
Personal Business

TELEVISION

KDKA	Pittsburgh
WSB	Atlanta

INQUIRIES SERVICED

Received	Advertising	Spontaneous
265,741	124,889	140,835

PUBLICATIONS

Number	Copies	Total Distributed	Average Inventory
293	1,586,000	1,974,042	550,000

NEWS, FEATURE & PHOTOGRAPH RELEASES

News & Feature Releases	Photographs Distributed
215	10,616

MOTION PICTURES

Audiences	TV Bookings
7,341	272

SPECIAL PROJECTS

Number	Copies Literature Used	Living Inquiries
469	218,973	2,841

ADVERTISING

Media	Number Advertisements
Newspapers, Magazines	36 in 148 publications
Television	1 or 2 stations

TOTAL ADVERTISING COST	$1,080,841.04

CONDENSED FINANCIAL STATEMENTS

For the Biennium Beginning July 1, 1968 and Ending June 30, 1970

Victor W. Barfield, Deputy Director

MAINTENANCE FUNDS

Statement of Receipts and Disbursements

	Fiscal Year 1968-69	Fiscal Year 1969-70
Total Disbursements	$8,767,883	$12,231,150
Less: Receipts	2,945,062	3,297,205
General Fund Appropriation	$5,822,821	$ 8,933,945
SUMMARY BY PURPOSE		
I. ADMINISTRATION		
Disbursements	$ 336,176	$ 352,995
Less: Receipts	53,834	47,289
Appropriation	$ 282,342	$ 305,706
II. 3 COMMERCE AND INDUSTRY		
Disbursements	$ 745,684	$ 2,051,696
Less: Receipts	—0—	77,212
Appropriation	$ 745,684	1,974,484
III. TRAVEL AND PROMOTION		
Disbursements	$ 823,743	$ 889,694
Less: Receipts	23,902	25,672
Appropriation	$ 799,841	$ 864,022
IV. GEODETIC SURVEY		
Disbursements-Appropriation	$ 106,446	$ 127,551
Less: Receipts	—0—	—0—
Appropriation	$ 106,446	$ 127,551
V. MINERALS		
Disbursements	$ 125,843	$ 263,698
Less: Receipts	33,436	40,841
Appropriation	$ 92,407	$ 222,857

VI.	FORESTRY FIRE CONTROL		
	Disbursements	$3,429,144	$ 4,357,157
	Less: Receipts	1,212,186	1,395,329
	Appropriation	$2,216,958	$ 2,961,828
VIB.	DARE BOMB RANGE		
	Disbursements	$ 138,558	$ 139,316
	Less: Receipts	138,558	139,316
	Appropriation	—0—	—0—
VII.	GENERAL FORESTRY		
	Disbursements	$ 186,614	$ 201,700
	Less: Receipts	80,201	69,151
	Appropriation	$ 106,413	$ 132,549
VIIA.	FORESTATION		
	Disbursements		$ 397,762
	Less: Receipts		86,364
	Appropriation		$ 311,398
VIII.	FOREST MANAGEMENT		
	Disbursements	$ 432,765	$ 515,686
	Less: Receipts	249,310	231,421
	Appropriation	$ 183,455	$ 284,265
IX.	NURSERIES		
	Disbursements	$ 393,793	$ 410,761
	Less: Receipts	373,474	410,296
	Appropriation	$ 20,319	$ 465
IXA.	NEW MOUNTAIN NURSERY		—0—
	Disbursements		$ 101,904
	Less: Receipts		—0—
	Appropriation		$ 101,904
IXB.	TREE IMPROVEMENT		
	Disbursements	$ 40,523	$ 95,768
	Less: Receipts	12,000	4,713
	Appropriation	$ 28,523	$ 91,055
X.	BLADEN LAKES STATE FOREST		
	Disbursements	$ 268,865	$ 256,424
	Less: Receipts	269,507	256,426
	Appropriation	$ —	$ —2

XII.	STATE PARKS		
	Disbursements	$ 706,309	$ 951,452
	Less: Receipts	185,445	198,287
	Appropriation	$ 520,864	$ 743,165
XIII.	STATE PLANNING		
	Disbursements	$ 211,612-	
	Less: Receipts	97,311	
	Appropriation	$ 114,301	
XIV.	COMMERCIAL FISHERIES		
	Disbursements	$ 761,180	$ 1,081,186
	Less: Receipts	215,898	254,260
	Appropriation	$ 545,282	$ 826,926
XIV.	DEFERRED OBLIGATIONS		
	Disbursements	$ 60,628	$ 46,400
	Less: Receipts		60,628
	Appropriation	$ 60,628	$ −14,228

AUXILIARY SUPPORTING FUNDS

Statement of Receipts and Disbursements

	Fiscal Year 1968-69	Fiscal Year 1969-70
DIVISION OF COMMUNITY PLANNING SPECIAL FUND		
Credit Balance—Beginning	$ 80,717	
Receipts	499,954	
	$ 580,671	
Less: Disbursements	580,671	
Credit Balance—Ending	$ —0—	
EXECUTIVE AIRCRAFT OPERATIONS SPECIAL FUND		
Credit Balance—Beginning	$ 2,244	$ 634
Receipts	51,631	76,460
	$ 53,875	$ 77,094
Less: Disbursements	53,241	77,000
Credit Balance—Ending	$ 634	$ 94

KERR RESERVOIR DEVELOPMENT COMMISSION
SPECIAL FUND

Credit Balance—Beginning	$ 16,062	$ 21,082
Receipts	41,520	44,306
	$ 57,582	$ 65,388
Less: Disbursements	36,500	42,735
Credit Balance—Ending	21,082	$ 22,653

KERR RESERVOIR DEVELOPMENT COMMISSION
OPERATING FUND

Disbursements	$ 83,805	$ 130,061
Less: Transfer from Special Fund	36,500	42,735
Appropriation	$ 47,305	$ 87,326

MINERAL INTERESTS
SPECIAL FUND

Credit Balance—Beginning	$ 71,630	$ 64,458
Receipts	74,441	75,187
	$ 146,071	139,645
Less: Disbursements	81,612	30.300
Credit Balance—Ending	$ 64,459	109,345

CAPITAL IMPROVEMENT FUND OF 1969 (66965)

Appropriation—Public Laws of 1969	$1,625,500
Receipts	15
	$1,625,515
Total Disbursements	180,367
Unexpended Balance	$1,445,148

KERR RESERVOIR DEVELOPMENT COMMISSION CAPITAL IMPROVEMENT FUND OF 1963 (66351)

Appropriation—Public Laws of 1963	$ 157,067
Less: Disbursements	156,772
Unexpended Balance	$ 345

KERR RESERVOIR DEVELOPMENT COMMISSION CAPITAL IMPROVEMENT FUND OF 1967 (66766)

Appropriation—Public Laws of 1967	$ 143,500
Receipts	78,024
	$ 221,524
Total Disbursements	205,618
Unexpended Balance	$ 15,906

KERR RESERVOIR DEVELOPMENT COMMISSION CAPITAL IMPROVEMENT FUND OF 1969 (66966)

Appropriation—Public Laws of 1969	$ 64,000
Total Disbursements	21,209
Unexpended Balance	$ 42,791

CAPITAL IMPROVEMENT FUND OF 1959 (65958)

Appropriation—Public Laws of 1959	$1,173,500
Less: Transferred to Dept. Water Resources	600,000
Appropriation: Conservation & Development	$ 573,500
Receipts	133,461
	$ 706,961
Total Disbursements	706,693
Unexpended Balance	$ 268

CAPITAL IMPROVEMENT FUND OF 1963 (66350)

Appropriation—Public Laws of 1963	$1,391,500
Receipts	617,321
	$2,008,821
Total Disbursements	1,898,722
Unexpended Balance	$ 110,099

CAPITAL IMPROVEMENT FUND OF 1965 (66555)

Appropriation—Public Laws of 1965	$ 787,000
Receipts	277,296
	$1,064,296
Total Disbursements	1,017,663
Unexpended Balance	$ 46,633

CAPITAL IMPROVEMENT FUND OF 1967 (66765)

Appropriation—Public Laws of 1967	$1,188,500
Receipts	1,855,894
	$3,044,394
Total Disbursements	2,890,464
Unexpended Balance	$ 153,930

RESTORATION OF TRYON PALACE CAPITAL IMPROVEMENT FUND OF 1963 (66353)

Receipts	$1,217,851
Less: Disbursements	1,213,502
Unexpended Balance	$ 4,349

NOTES

In the interest of readability, much detail has been omitted. Those persons wishing more information about specific phases of the department's programs need only to contact the Department or the Division directly concerned.

Burroughs Wellcome Co. Building in Research Triangle Park

Great Smoky Mountains National Park in North Carolina

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Skiing is burgeoning industry in North Carolina